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PARENTAL OPINIONS OF AN I.P.I. ARITHMETIC PILOT PROJECT: A SURVEY THROUGH PERSONAL INTERVIEWS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Parental Opinions of an I.P.I. Arithmetic Pilot Project: A Survey Through Personal Interviews" submitted by G. M. Hoke in partial fulfilment of the requirements for the degree of Master of Education.

ABSTRACT

This study constituted part of the evaluation of a pilot project initiated by the Alberta Human Resources Research Council to study the applicability of Individually Prescribed Instruction (I.P.I.) in arithmetic to Alberta schools. The study was designed to use personal interviews to survey parental opinions about selected variables related to the experimental program.

In general, the findings indicated that there were four times as many desirable features mentioned as those which were undesirable. In the analysis, responses to questions were grouped in three categories. The first category of responses revealed: parental acceptance of the opportunities provided for children to progress at their own work pace, parental assertion that the children were taking more responsibility for their school progress, and divided opinions over the feature that there was no arithmetic homework.

The second category of responses were concerned with the effects the I.P.I. method had upon the child. There were some changes in the child's behavior and attitudes in the home. Parents expressed satisfaction with their children's achievement in arithmetic, and they predicted that the children would acquire positive attitudes towards junior high school because of I.P.I. experiences.

The implementation of the I.P.I. program necessitated organizational changes which were evaluated by the third category of responses. As compared to previous years, parents had some increase in contact with teachers but no change in contact with the school administrators. Parents were almost unanimously in favor of hiring teacher-aides and of utilizing the services of community volunteers in the local school. Parental comments were directed to school board officials concerning further I.P.I. program implementation procedures, individualizing instruction, expenditure and taxation, effects of I.P.I. upon teachers, and parental involvement in school matters. Constructive parental criticisms were made about school reporting methods. A majority of the respondents valued the I.P.I. program in spite of its cost, and were favorably disposed toward further experimentation in their local school.

The parental interviews revealed that the pilot project had many desirable features and so it was concluded that, in general, parents regarded I.P.I. arithmetic as a program that is suitable for use in Alberta schools.

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THE PROBLEM, ITS NATURE AND SIGNIFICANCE

I. INTRODUCTION AND BACKGROUND OF THE PROBLEM

In the fall of 1968, the newly formed Alberta Human Resources Research Council drew up a five phase planning program to be used as a guide to its activities.[1] Phase three of this plan encompassed the Proposed Research Program. One of the stated goals of this program was to undertake "... Research and Development Activities ... including fundamental research, development of inventions and field testing."[2]

To achieve this goal a field testing and second generation development project in individualized learning was implemented in order "... to assess the applicability to Alberta Schools of developed I.P.I. [Individually Prescribed Instruction] systems."[3]

The I.P.I. system selected was an individualized learning approach to elementary school arithmetic which has been developed by the Learning Research and Development Center of the University of Pittsburgh and was being field tested elsewhere by Research for Better Schools, Incorporated [R.B.S.], of Philadelphia.[4] In September, 1969, a pilot project to study the applicability of this program to

Alberta schools was implemented. The three experimental schools selected were Forest Heights Elementary Public School in Edmonton, Saint Vincent de Paul Elementary Separate School in Calgary, and Millarville Elementary School in the Foothills School Division.

The Alberta Human Resources Research Council project administrators identified several aspects of the I.P.I. elementary arithmetic pilot project for evaluation over a three year period. (1) A statistical analysis of several variables within the experimental setting which may affect student achievement scores was undertaken. (2) An evaluation was conducted which assessed how well the R.B.S. plan for implementation was followed. (3) An historical/process evaluation was made, primarily from diaries kept by project and school administrators and teachers. (4) A study of various types of change among twelve relevant variables, as described by a conceptual model, was undertaken. (5) A special category in the overall plan of research was created to incorporate studies being done by researchers which were related to the project. (6) A final category included descriptive studies in which: socio-economic status of families living in the experimental school districts were described; teacher and administrator perceptions of I.P.I. were explored; a Flander's interaction analysis was conducted in the experimental schools; and, since parents were knowledgeable about the program, parental perceptions of the

individualized approach to instruction were evaluated.

This study is one of the descriptive studies undertaken and was designed to explore the perceptions held by a selected group of parents about certain variables related to Individually Prescribed Instruction in elementary arithmetic.

II. THE PROBLEM

Statement of the Problem

The central problem of this study suggested the following question: What were parental opinions concerning some aspects of the Individually Prescribed Instruction (I.P.I.) program in arithmetic as it was offered in three elementary schools in Alberta as part of a pilot study conducted during 1969-1970 by the Alberta Human Resources Research Council?

Questions Which the Study Sought to Answer

Specifically, the study sought a number of qualified opinions to a set of particular questions which were grouped in three broad categories. These questions served as a framework for the study. The first category sought parental opinions of certain features of the I.P.I. arithmetic program as administered within the local experimental schools:

1. What will parents perceive as desirable features of the I.P.I. arithmetic program?

2. What will parents perceive as undesirable features of the I.P.I. arithmetic program?
3. What are parental opinions of a child regulating his own work speed in the I.P.I. arithmetic program?
4. What are parental opinions about the non-existence of arithmetic homework in the I.P.I. arithmetic program?
5. What are parental opinions about the child assuming responsibility for his own progress in the I.P.I. arithmetic program?

The second category sought parental opinions of the effect the I.P.I. arithmetic program had upon their children:

6. What are parental opinions about the child's achievement in the I.P.I. arithmetic program?
7. What are parental opinions in regard to the child's attitude, behavior, or relationships with peers, family, and adults outside the school?
8. What are parental opinions about the effect the I.P.I. arithmetic would have upon the child's attitude toward school in future years -- primarily in junior high school, and senior high school?

The third category of questions sought parental opinions concerning personnel, communication, and administrative variables connected with the I.P.I. arithmetic

program:

9. Is the I.P.I. arithmetic program causing any changes in the parent's relationship with the teacher(s)?
10. Is the I.P.I. arithmetic program causing any changes in the parent's relationship with the school principal (and vice-principal)?
11. What are parental opinions about the practice of hiring teacher-aides to assist with clerical duties connected with the I.P.I. arithmetic program?
12. What are parental opinions about parental volunteers working in the school and assisting in the marking of I.P.I. worksheets?
13. What are parental opinions about communications between parents and the school?
14. What are parental opinions about the techniques used to report the child's progress in the total school program?
15. At the end of the first eight months of trial would parents be prepared to comment on the I.P.I. program or method as being valuable enough to justify the expenditure of funds on its implementation?
16. What comments are parents likely to direct to school board officials or trustees before similar

programs, using the I.P.I. method, are implemented in other elementary school subjects such as reading, science, or spelling?

17. What opinions would parents express about using the local school to start another experimental program after the I.P.I. project is completed?

These seventeen questions served as a framework for formulating questions in the interview schedule. However, the interview items were worded differently and were not arranged in the same order.

III. THE EXPERIMENTAL SETTING

The population for the investigation consisted of those parents who met criteria which are outlined in Chapter III and whose children attended Forest Heights Elementary School in Edmonton, Saint Vincent de Paul Separate School in Calgary, and Millarville Elementary School in Millarville. Since the data were to be collected by interviewing parents at length in their homes, the number selected was relatively small and represented approximately five percent of the total population of parents.

IV. DATA COLLECTION

The data were collected by the use of an interview schedule and a guide for interviewing (Appendix B). In the early preparation of the schedule and guide, a consensus of

the suggestions of Human Resources Research Council researchers; Edmonton Public Schools Research Officials; school administrators; and parents, not included in the population, were incorporated to help validate the selection of items and the procedure to be followed in interviewing.

Pilot interviews were conducted and the responses as well as the interviewer's techniques were judged by an University of Alberta professor of Education for reliability. Raw data were collected for the study by tape-recording the interview and later transcribing the interview verbatim. The verbatim transcript was summarized prior to analysis. The accuracy of the verbatim transcription and of the summaries was judged by two graduate students at the University of Alberta. Each randomly selected six summaries and compared them with the transcripts. To control bias, no summarization of raw data was done until all the interviews were conducted and transcribed.

V. SIGNIFICANCE OF THE STUDY

When the Alberta Human Resources Research Council planned the evaluation of the Individually Prescribed Instruction (I.P.I.) elementary arithmetic project, it was decided to include a descriptive study based on a survey of parental opinions.[5] It was recognized that parental attitudes as well as the I.P.I. arithmetic program itself, the influence of teachers, the climate of the school, and

other factors were important variables. Thus parental opinions provided evaluative feedback, contributing to the assessment of the effectiveness of the schools in achieving the objectives of the pilot project and of some of the objectives of the I.P.I. arithmetic program.

Other reasons for asking parents their opinions about the I.P.I. arithmetic were evident. They shared the socialization (the global teaching process) of the child with the local school. "The family is still important as a socializing agent and a transmitter of culture, exerting strong socializing influences throughout the child's formal education."[6] Parents were responsible for their child's development, either directly or indirectly, and it was likely that the attitudes of the parents toward the school program would have an effect upon the child's attitudes toward that program.

In addition, the parents, as members of the local community, held some values and beliefs in common which influenced the objectives of the local school's curriculum.[7] This study was planned to help determine whether the achieved objectives of the I.P.I. arithmetic program fulfilled parental expectations. Since parents support the financing of educational programs through taxes, and have a right to voice their views, their opinions have a political relevancy which may influence administrative decisions concerning the installation of new educational programs such

as the I.P.I. arithmetic. A survey of parental opinion might also assist school boards if they were to make a cost-benefit analysis.

The I.P.I. arithmetic program is one form of individualized instruction in which the school places an emphasis on providing opportunities to meet the unique physical, emotional, and intellectual needs of each child as far as possible in a school setting. The degree to which the program was effective in meeting the particular needs of an individual child would partially be evident to the child's parents.[8] Their opinions in this regard could thus be used to help evaluate the I.P.I. arithmetic project.

Another reason for obtaining the opinions of parents centered around the possibility that children might voice an emotional reaction to school experiences at home which they might not voice at school. If children reacted at home to educational program changes, then parental comments should be sought to help assess the degree of emotional reaction children were experiencing in adapting to these changes. Implementation of the I.P.I. arithmetic in the experimental schools would necessitate such an adaptation by the children.

VI. DEFINITION OF TERMS

For the purposes of this survey and report, the following meanings were attached to specific terms:

Pittsburgh I.P.I. arithmetic. "Individually Prescribed

Instruction consists of planning and conducting with each student a program of studies that is tailored to his learning needs and to his characteristics as a learner"[9] in the "... classical new math [sic], characterized as emphasizing and utilizing the logical development of arithmetic."[10]

Socialization. Socialization is a global teaching process where the incumbent is taught the unique values, traditions, beliefs or knowledge, and goals of a particular social unit such as a family.

Attitude. An attitude is a state of mind regarding some matter, as indicating opinion or purpose.

Opinion. An opinion is a conclusion or judgement held with confidence, falling short of positive knowledge, but, nevertheless, an evaluation which is honest and is based on a prevailing sentiment or a rationale. In the parental interviews the terms, "comment" and "feeling" were used synonymously with "opinion".

Perception. This term refers to any insight, knowledge, or belief acquired through observation or awareness.

Cost-benefit analysis. By assessing the benefits to those affected by an educational program, an evaluation, based on particular criteria, can be placed on the program in terms of the returns for the amount of money which was expended on it.

VII. OVERVIEW

The foregoing chapter has discussed the problem and has presented the reader with an overview of the investigation. A review of related literature concerning the Pittsburgh I.P.I. arithmetic and the motivation for implementing it in the three Alberta experimental schools will be discussed in Chapter II. Chapter III will describe in detail the design of the study. The results of the study, including a classification or categorization of the data will be presented in Chapter IV. Chapter V will consist of a summary of the investigation, conclusions, implications, and suggestions for further study.

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[4]Research for Better Schools, Inc., Research for Better Schools, Annual Report (Philadelphia: R.B.S. Inc. Publication, 1969), p. 3.

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[6]D. A. Goslin, The School in Contemporary Society (New York: Scott, Foresman and Company, 1965), p. 2.

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[8]Katherine E. D'Evelyn, Individual Parent-Teacher Conferences (New York: Columbia University, 1959), p. 93.

[9]Research for Better Schools, Inc., Introduction to Individually Prescribed Instruction (Philadelphia: R.B.S. Inc. Publication, 1969), p. 2.

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CHAPTER II

A REVIEW OF RELATED LITERATURE

I. PURPOSE OF THE CHAPTER

Since this study was a part of the larger evaluation project focusing upon the suitability of the Pittsburgh Individually Prescribed Instruction (I.P.I.) for elementary school arithmetic to Alberta schools, it was pertinent to examine selected literature concerning the concept of individualizing instruction, the relationship of this I.P.I. system to this concept, a description of this general I.P.I. arithmetic program, provisions of this I.P.I. system for individualizing instruction, and the motivation underlying the Human Resources Research Council's field test of the program in Alberta schools.

II. INDIVIDUALIZING INSTRUCTION

It has long been recognized that each human is genotypically unique.[1] Also, the environment in which the organism lives influences development. A combination of genetic and environmental influences upon physical, mental, and emotional development, results in unique personal qualities in each individual. These unique qualities describe individuality. The variations between one individual's needs, interests and abilities and another's are labelled

individual differences. Relative to educational practice and instructional theory is the way in which these individual differences interact with learning variables so that optimal educational conditions can be provided to learners.

The problem of adapting instructional environments to individual differences among pupils has been analyzed by Cronbach in terms of several patterns.[2] Pattern one assumes fixed educational goals and a fixed educational treatment. The word "treatment" refers to a particular educational program or the instructional method assigned to a student. The provision for individual differences in pattern one follows two variants: one is to instruct an individual by sequential selection, permitting the student to "drop out" if unsuccessful; and the other variant is to permit a student to stay in school until he achieves, to a predetermined degree of mastery, certain essential and common educational outcomes.

A second pattern essentially involves a matching of educational goals to the individual. The student's future life-role is determined and he is provided with an appropriate curriculum to prepare him for that role. An example is the provision of "academic" courses for the student who is entering a university and "vocational" courses for a student who plans on entering a technical institution for post-secondary education. In this pattern

the educational system must provide optional educational routes. Instructional treatment remains relatively fixed.

A third pattern of adaptation to individual differences attempts to teach different students by different instructional procedures. Within each of these instructional treatments there is a minimum number of educational goals which must be mastered in a fixed sequence. There are a variety of ways in which this pattern can be implemented. At one extreme, highly individualized instructional sequences are provided to selected students who have been isolated from the fixed instructional program which is provided to the majority of the students. The selected students' competencies, such as work habits, study skills and achievement, are diagnosed and an unique prescription is made for a course of instruction which provides the enrichment or remedial program needed by each to reach predetermined goals. At the other extreme, each student's competencies are carefully diagnosed and a specific instructional sequence is prescribed for each. The mode of instruction prescribed varies relative to the needs and interests of each individual pupil. This pattern provides an optimum level of equalized opportunity for students. For the purposes of this study, the term "individualizing instruction" refers to the trend toward the latter pattern of adapting instruction.

The quality of the system which individualizes instruction depends on the influences of a number of

variables. The variables include: (1) the interaction between individual difference factors and learning treatments; (2) the nature of the learner, including cognitive, affective, and psychomotor factors; and (3) existing environmental factors such as evaluative instruments, materials and equipment, teaching methods employed, the learning setting, and the use of instructional time.

Glaser points out that one area of research and development regarding the implementation of individualized instruction "... involves experimentation in school environments with strategies for adapting to individual differences. This includes the development of appropriate instructional materials ... and testing instruments."[3]

III. DESCRIPTION OF THE I.P.I. ARITHMETIC PROGRAM

The Learning Research and Development Center in Pittsburgh has developed a program entitled Individually Prescribed Instruction (I.P.I.).[4] The purpose is to provide "... a system of procedures that would produce an educational environment which would be highly responsive to differences among children."[5] The environment includes individualized lesson plans, individualization of the materials and instructional techniques, and requires each student to achieve at a required level of subject matter mastery as he progresses through the materials.

The I.P.I. system for elementary school arithmetic developed by the Learning Research and Development Center of Pittsburgh is being field tested by Research for Better Schools, Incorporated, of Philadelphia, whose basic aims are to study how learning proceeds in this particular educational environment, and to redesign the system so that it becomes increasingly effective in providing for individual differences and for attaining the goals of elementary school arithmetic.

Although the Pittsburgh I.P.I. arithmetic program is undergoing continual refinement and modification, an attempt will be made to describe it in its present form. It consists of worksheets which relate to thirteen basic mathematical content areas. These areas include numeration, place value, addition, subtraction, multiplication, division, combination of processes, fractions, money, time, systems of measurement, geometry, and special topics. The worksheets are arranged in sequential units so that they range through eight levels of difficulty, levels A through H. Level A consists of the simplest mathematical skills and level H consists of the most difficult skills. The material is highly structured in a non-graded sequence (see Appendix E).

When a student enters the program at any time he is placed in each of the mathematic areas at his level of competency according to his achievement obtained from a placement test. (All the tests used in this program are designed

by Research for Better Schools Inc.) Once placed, and prior to beginning a particular unit of work, the student takes a pretest. If the pretest demonstrates that he can master the content and skills within the unit, he can take the pretest of the next unit in the sequence, as prescribed by the teacher. The student need complete only the particular sections of a unit in which he cannot demonstrate competency on the pre-test. "Competency" refers to subject matter mastery. The degree of mastery required of the child varied slightly but this is defined in the program's materials. While working through the prescribed sections of a unit, the student completes particular (curriculum-embedded) test questions, the evaluation of which determines if he is mastering the content and skills of that unit as he progresses. Upon completion of a unit, a post-test is taken to evaluate mastery of the unit. This post-test enables the teacher to diagnose and record progress. If difficulty has been encountered by the student with any part of a unit, the teacher may prescribe additional work.

IV. THE PROVISIONS OF THE I.P.I. SYSTEM FOR INDIVIDUALIZING INSTRUCTION

Yeager and Glaser indicated that several features of the I.P.I. system provide for individualization of instruction.[6] Sequences of behaviorally stated objectives have been spelled out and material has been selected or

developed to enable students to achieve mastery of each of the objectives. Bloom states that ninety-five percent of all students can master learning tasks if instruction is made appropriate to the needs of each individual.[7]

There is a second major provision for individual differences. The program suggests that a variety of instructional materials and equipment be used. In the arithmetic program, the worksheets, arithmetic games, illustrative apparatus, filmstrips, and tape-recorded lessons played on cartridge-loading tape playback devices can be used. This allows an individual student to utilize the instructional procedure which he prefers and to which he reponds well.

The teacher's role is somewhat different from that found in more traditional classrooms. "The teacher is not only a source of information, but also a diagnostician and consultant on individual learning requirements."[8] The teacher spends a considerable amount of time studying the progress of individual students and in developing individual learning experiences fitted to the needs of each student. This results in individualized lesson plans and teaching techniques for each student, a practice not usually found in other patterns of instruction. This practice requires that teachers participate in a training program which prepares them for teaching in an I.P.I. instructional pattern.

A student entering the program at any time during the school year is given a placement test for the purpose of assessing his behavior and to determine the level at which he should begin work in each content area. In this manner "... both inter-individual and intra-individual differences in level of achievement are accounted for in the arithmetic curriculum."[9]

The unit pre-tests, embedded tests, and unit post-tests enable the teacher to diagnose a student's performance and to prescribe a series of learning experiences uniquely suited to each individual's competencies. It is through a process of continual re-evaluation that a student progresses from one learning task to another at a rate commensurate with his needs and abilities.

The child works at his own rate of speed and utilizes instructional time to meet his particular needs. The child is under no compulsion to wait for slower progressing classmates or to do additional work, such as homework, in order to progress more quickly if he is a slow worker. This flexible use of time is another means by which the materials aid in the individualization of instruction.

The I.P.I. system also allows the student to select the type of instruction he desires. He can work independently, receiving teacher assistance when needed or desired, or he can work in large or small groups under the direction of the teacher.

V. H.R.R.C. MOTIVATION FOR FIELD TESTING I.P.I. ARITHMETIC IN ALBERTA

The rationale for the creation of the Human Resources Research Council (H.R.R.C.) was presented in a White Paper on Human Resources Development, tabled in the Alberta Legislature in 1967. The Act to establish this organization was adopted that same year. The H.R.R.C. was established to "... undertake educational, social, economic, and other research relating to and affecting the development of human resources in Alberta."[10] As initial planning progressed and strategies and priorities were adopted, program descriptions were developed. One of the program areas organized around a Research and Development theme was Program Area 400.

> Program Area 400: Studies in Individual Development. This program in its initial stages, is directed toward the study of education. It consists of the following research and development projects: a baseline study of conditions of schooling related to individual development; assessments of the applicability of Individually Prescribed Instruction (I.P.I.) systems to Alberta schools; studies on the nature of individuality; and the study of computer applications in education, particularly computer-assisted instruction.[11]

The motivation underlying the H.R.R.C. individualized learning project is based on "... the conviction of teachers and others that schools generally have not been able to provide adequately for individual differences among

children."[12] As a result, the activities within the individualized learning project are directed toward finding more effective approaches to individualizing instruction in the schools, and disseminating these findings to teachers and administrators in order to encourage changes in practice. The merits and limitations of several individually prescribed instruction programs were examined prior to selecting a model to field test in Alberta.

The Pittsburgh I.P.I. Arithmetic was the program selected to initiate the research into individualized learning, since I.P.I. is a specific system of individualized instruction very similar to the general model of individualized instruction developed by the Learning Research and Development Center in Pittsburgh.[13] Russell Pacey, I.P.I. project administrator for the Alberta Human Resources Research Council, has said:

> It is hoped that as an outgrowth of the early work in I.P.I., teachers and curriculum designers in Alberta will be stimulated to develop individualized curricula for all levels and areas of the school program. When this stage is reached, rapid progress can be expected in individualization. For it is local involvement to meet local needs that will ultimately provide for effective individualization of our educational system.[14]

VI. SUMMARY

Each person possesses unique qualities or individual differences which have implications for educational practice

and instructional theory. The schools have adapted to individual differences in three basic patterns. The pattern that will likely emerge is one in which individual students will achieve their unique educational goals through instructional procedures which are prescribed for each student individually. The trend toward the emergence of this pattern of school adaptation to individual differences defines "individualizing instruction" for purposes of this study.

The Learning Research and Development Center's experimentation with school environments to facilitate the individualization of instruction has resulted in the development of Individually Prescribed Instruction (I.P.I.) programs. The I.P.I. arithmetic program was described briefly and its provisions for individualizing instruction were noted. The Human Resources Research Council's goal of finding more effective approaches to individualizing instruction has resulted in a field testing of the I.P.I. Elementary Arithmetic in Alberta as an initial research project.

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[13]Research for Better Schools Inc., Teaching in I.P.I. Mathematics, Vol. 1 (Philadelphia: R.B.S. Inc. publication, 1969), p. 25.

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CHAPTER III

THE DESIGN OF THE STUDY

I. INTERVIEWING AS A MEANS OF SOLICITING PARENTAL OPINIONS

Directed exploratory interviewing, as a technique for collecting data, was selected because it accomplished several purposes that might not be achieved by other methods. Interviews may reveal important variables and give them preliminary definitions. The exploratory interview can be a means of discovering relations among variables, and thus, for setting up hypotheses for further testing.[1] The interview can provide estimates of variables for which no objective tests were yet available.[2] "An interview approach may make a study involving many variables cohesive."[3] Through probing techniques, the interviewer may determine the motivation behind responses and the meanings of generalized statements and may control inconsistencies in the recording of the data.

When the researcher interviewed the parents in their homes, he was able to overcome difficulties with collecting data which would have occurred if parents lacked the inclination or the ability to answer a questionnaire, or failed to attend public meetings where some feedback may have occurred. Thus, opinions may have been elicited from

parents who normally might not have responded if other methods of data collection had been used. Thirty-five parents were contacted for interviews in this study, and all cooperated. Thus the returns from the sample were comprehensive, increasing the reliability of the data for that sample.

Among the disadvantages of the interview over other methods of data collection is the possibility of interviewer bias affecting the subject's responses. This could occur if the interviewee was given suggestions which would condition the reply or when the respondent was influenced by nonverbal cues from the interviewer, such as changes in his facial expressions. In order to control for such difficulties, a carefully planned schedule guide was constructed and followed. Another disadvantage of the interview technique is the time required which necessitates the selection of a small sample. The results then can rarely be treated in a quantitative manner.[5]

II. DEVELOPMENT OF THE INSTRUMENT

Once the definition of the problem had been refined and interviewing was selected as the method to be used to collect data, permission to conduct the research was obtained from the three sponsoring school systems (see Appendix A). Then work on the interview schedule was begun. To prepare the questions in the schedule, the objectives of

each question had to be determined. Several information collecting interviews were held with Human Resources Research Council researchers, Edmonton Public School Board research officials, and administrators of the experimental schools. As a result of these interviews a thirty-two question interview schedule was designed. Each question had a specific objective. To assist respondents in overcoming any language barrier inherent in the items, the vocabulary was simplified. The schedule was judged by a researcher, experienced in interviewing, to remove redundancy and awkward wording. Also, upon the advice of this judge, a schedule guide was written which was to be read to each respondent prior to the interview so that each had a review of the background information. (Various project administrators informed the researcher that parents were well acquainted with the program.) Another purpose of the guide was to control interviewer bias. As the result of the pilot interviews, the final condensed form of the schedule guide was drawn up and the interview schedule was refined to include eighteen items (see Appendix B). It was found that many of the original thirty-two schedule items could be incorporated as "probes" which are interrogative phrases or sentences designed to elicit further information about a reply to an original question.

III. OBJECTIVES OF THE SCHEDULE QUESTIONS

The preliminary question preceding the items was designed to indicate to the interviewer the parent's distinction of the terms "I.P.I. arithmetic program" and "I.P.I. method of arithmetic" because the terms were used synonymously by parents in several places in the pilot interviews. This question was also to have the effect of encouraging the respondent to talk in a more relaxed manner and to begin to express himself freely.

Items one and two, asking for opinions about the desirable and undesirable features of the I.P.I. method of instruction, were designed to enable the respondent to overcome any tension that might be present in the initial stages of a formal interview, and to encourage him to respond spontaneously and to begin organizing his thoughts.

Items three and four were included to elicit opinions about important characteristics of the I.P.I. concept. The responses would constitute a parental evaluation of two specific features of the program: the opportunity for the child to work at his own rate of speed through the materials and the policy that he would be assigned no homework.

Item five was designed to ascertain if parents could perceive any changes in their child's attitudes and behavior in peer, home, or community relations which could be attributed by the parent to the effects of the I.P.I. program

upon the child. For example, if the child gained more self-confidence through his work in the I.P.I. arithmetic, would he appear more self-confident in his associations with others?

In item six, an attempt was made to state a question which would result in a parental assessment of the value of the I.P.I. program in arithmetic (based on eight months trial), keeping in mind there might be a need to increase educational expenditures if the program was to be implemented in elementary schools on a system-wide basis.

Items seven, eight, and nine sought parental opinions of the effect the I.P.I. program has had upon some of the child's reactions in school such as the child's acceptance of responsibility for his progress or advancement through the materials, the child's achievement or degree of mastery while learning the concepts in the materials, and the possible effects the I.P.I. mode of instruction could have upon the child's attitude toward school in future years. It was felt that parents may be aware of some of these effects because of family discussions about school. Since the I.P.I. project resulted in changes in the progress-reporting methods employed by the host schools, item ten sought to elicit parental opinions evaluating the current use of formal parent-teacher conferences, the general report card, telephone exchanges, and other forms of pupil-progress reporting which had occurred up to the time the

interview took place.

Items eleven and thirteen were included to see if teacher and school administration contact with parents had changed with the advent of the experimental program. There also was an interest in seeing if the parents altered their expectations of the roles of the teacher and administrators as a result of the program. Item twelve was inserted between these two items to break the respondent's thought pattern and thus to differentiate the relationship of the parents with the teachers and with the school administrators as separate entities or variables.

Items twelve and fourteen were designed to seek parental opinions of the practice of hiring aides to do specialized clerical tasks and of community volunteers working in the classrooms marking worksheets. Neither of these practices had been employed prior to the implementation of the I.P.I. project in the three schools, so the items were intended to discover a parental reaction to the innovation.

Item fifteen is a general exploration of communication between parents and the local school. It was assumed that good school-parent communication was a necessary condition for widespread parental acceptance of the I.P.I. method of teaching arithmetic.

Item sixteen simply sought to discover if parents discussed any topics informally, with social peers,

concerning the local school which might give some indication of the acceptance or rejection of the I.P.I. project.

Item seventeen was included to enable parents to give some feedback to local school boards or school board officials about the I.P.I. concept of instruction. If the future evaluation of the pilot project indicates that the I.P.I. method of instruction has been successful in meeting the objective of individualized instruction, its implementation may be considered in other elementary school subject areas. I.P.I. reading, science, and spelling programs have been developed and are available commercially, but have not been given a systematic trial in Alberta schools.

Item eighteen sought to obtain parental reactions to the use of the local school and their children for experimentation with curricular programs.

Another objective of the questions was to allow redundancy or overlap to occur. It was felt that this could provide additional information.

The statement of the questions in the interview schedule can be found in Appendix B.

IV. PILOT INTERVIEWS

Four pilot interviews were conducted. The subjects were selected because they had children enrolled in the experimental program at Forest Heights Elementary School in Edmonton. Initial contact with the four subjects was

made by letters mailed from the Human Resources Research Council office (Appendix C). Several days later the subjects were telephoned by the interviewer to arrange a suitable date and time for an interview in their home.

By following the suggestions in the University of Michigan Interviewer's Manual, the interviewing technique was practiced and refined during the first two pilot interviews. The third and fourth pilot interviews were used to test the telephone contact procedures, schedule guide use, and schedule use. These two interviews were tape-recorded, transcribed verbatim, and a summary was made of both transcriptions. Every effort was made by the researcher to remain consistent throughout the pilot study. The tape-recorded guide usage, schedule usage, probing techniques, transcription, and summarization were judged for inconsistencies and bias by an University of Alberta professor of Education.

V. THE SAMPLE

The population for the investigation consisted of all the parents whose children attended Forest Heights Elementary Public School in Edmonton, Saint Vincent de Paul Elementary Separate School in Calgary, and Millarville Elementary School in Millarville.

Variability in the sample was controlled by including the total available population as the target population.

It was evident, however, that the available population would not include all the parents of children enrolled in the experimental schools. Certain delimitations had to be imposed on the definition of the population in order to ensure that the subjects selected were available for interviewing and could give opinions for the purposes of the study.

There were a number of reasons for excluding names from the sample. Parents who were teachers or school administrators, teacher-aides, clerical-aides, community volunteers, and caretakers who worked in the experimental schools were excluded because they might be biased because of prolonged exposure to the program. Some beginning pupils (Grade One) were not involved in the I.P.I. arithmetic program and their parents were excluded. People who transferred into the school attendance area after the initiation of the program were excluded because, according to one of the project supervisors, they had less information about the program than the other parents, since orientation meetings were held in each school for parents early in the school term.

Another delimitation was imposed because of factors related to the raising of the child. It was recognized that certain people may not have valid opinions because of their infrequent contact with the child. Hence, they had a lack of familiarity with the day-to-day activities

of the child. These people included the parent who was divorced or separated from the spouse who was raising the child, relatives of the family who were presumably temporarily caring for the child but who had not legally adopted the child, parents who were temporarily not raising the child at the time of the study, and parents whose children were in a foster home or who were under the supervision of the Provincial Department of Social Development. It was also necessary to exclude the names of parents who were suffering from long term mental or physical illness and were, in some cases, institutionalized; and those who were employed outside of the Province.

After delimiting the population, the name of the father, and the name of the mother were included separately in compiling the population lists. To obtain the sample for the study, a random selection of names were drawn. Only the first name drawn from each household was included in the sample. This was designed to eliminate the need to control for extraneous variables caused by differing opinions between married couples due to sex differences, differences in socio-economic backgrounds, differences in personal education, differences in personal aspirations for the child, differences in maturity, age, race, religion, and any other differences in values, beliefs and attitudes. Approximately five percent of the names from each school attendance area were drawn: fourteen names were selected

from the Forest Heights School attendance area, fourteen from the Saint Vincent de Paul School attendance area, and seven from the Millarville School attendance area, making a total of thirty-five individual parents.

VI. DATA COLLECTION

Initial contact with the parents selected for interviewing was made by means of letters mailed from the Alberta Human Resources Research Council office (see Appendix C). Several days later, the subjects were telephoned by the interviewer to arrange a suitable date and time for an interview in their homes.

The personal contact with the subjects at their homes followed a well defined procedure. After verbal introductions, a letter of introduction, obtained from the three school board offices for use in their respective areas, was presented (see Appendix D).

Before interviewing was begun, the material in the schedule guide was presented to the subjects to give them background information and to prepare for the interview (see Appendix B: Schedule Guide).

The interviews were tape-recorded on a cassette tape-recorder. This machine was used because it was small, simple to operate, had clear reproduction of sound, and it had no exterior microphone. Every interviewee was questioned after the pilot interview about the procedure in general and

none said that they felt inhibited by the tape-recorder. It seemed to be unobtrusive and non-threatening.

Upon completion of the interview and after leaving the subject's house, the interviewer's reactions to the home environment and the subject were noted on the tape-recording for later judgement of the effect these factors may have had upon biasing the interviewer and the type of responses he elicited.

Two or three interviews were conducted in a given day, and verbatim transcriptions of the interviews were completed the same day to ensure the accuracy of the raw data transcriptions in meaning, inflection, and context. A random sample of two transcriptions from each school attendance area was judged for accuracy independently by two University of Alberta graduate students.

Data collection took a total of three weeks in late April and early May, 1970. Upon its completion, a recess of two weeks was taken by the interviewer to permit a memory-fade to help control any biased attitudes which may have been formed. The verbatim transcriptions were then summarized. The summary was simply a shortened form of the interview. In some cases, where the respondent gave an opinion which could be included as an answer to another item, this rearranging was performed in the summary to assist in the analysis of the data. These summaries constitute the final data form and were completed before

analysis was begun. The summarization of six randomly selected verbatim transcripts were also judged by two University of Alberta graduate students for accuracy to ensure that the intent of the response was clear.

VII. SUMMARY

Selection of interviewing as a technique for data collection, the development of the interview-guide and the interview schedule, sampling procedures, and data collection have been discussed. Chapter IV deals with the description of the data collected.

REFERENCES -- CHAPTER III

[1]Nevitt Sanford, "The Interview in Personality Appraisal," in Anne Anastasi (ed.), Testing Problems in Perspective (Washington, D.C.: American Council on Education publication, 1966), p. 608.

[2]Ibid.

[3]J. W. Wrightstone, Joseph Justman, and Irving Robbins, Evaluation in Modern Education (New York: American Book Company, 1956), p. 157.

[4]Ibid., p. 158.

[5]Ibid., p. 155.

CHAPTER IV

ANALYSIS OF THE DATA

I. PURPOSE OF THE CHAPTER

Three different methods of analyzing the data were used. In the section, Description of Responses to Items, the seventeen questions, originally stated in Chapter I as a framework to the study, are restated as the basis for the first analysis. Certain interview items are related to each of the framework questions. Various procedures are employed to report this analysis. In some instances, responses to interview items are illustrated by tables. In the cases where the responses are complex, tables are not used.

The second method of analysis is based on the findings of another survey of parental opinions of educational practises in Alberta.[1] From these findings it was anticipated that response themes would emerge which could be described independently because the open-ended items would allow for the emergence of themes at several places during the interview. These themes, or clusters of opinions, concerning several concepts, are described in the section entitled Description of Response Themes.

The third analysis is based on some of the differences among the responses from parents of the three schools.

These variations are reported in the section entitled Response Variations by Schools.

II. DESCRIPTION OF RESPONSES TO ITEMS

In this section, the seventeen questions posed in Chapter I are restated and the parental opinions or comments pertaining to each question are reported. The direct quotations are taken from actual transcriptions and they have been selected because they were viewed as representative of the answers to the questions.

Category One

The first five questions describe parental opinions of certain features of the I.P.I. arithmetic program as administered within the local experimental schools.

Question 1. What will parents perceive as desirable features of the I.P.I. arithmetic program?

Since responses applicable to this question emerged throughout the interviews, the results will be reported in the next section, Description of Response Themes.

Question 2. What will parents perceive as undesirable features of the I.P.I. arithmetic program?

The opinions and comments relevant to this question will be reported in the next section, Description of Response Themes.

Question 3. What are parental opinions of a child regulating his own work speed in the I.P.I. arithmetic program?

Twenty-seven of the respondents said this feature was good or excellent (see Table I). Twelve parents who reacted this way did so because they felt the child was able to work through the materials at the pace he chose and his progress was a reflection of his initiative. The child had the freedom to be an individual within the class, and this enabled him to become self-reliant and self directing. Eight people out of twenty-seven commented that, by mastering all the material at his own rate, the child had a sense of achievement or accomplishment. The remaining seven people felt that under this arrangement the children felt less strain or tension than they did from competing or working as a class, because many are no longer trying to keep up with the class work pace or waiting for the class to catch up to them. Related to this, they claimed that the children felt more confidence, enjoyment and satisfaction, and less frustration:

> If the child is capable he shouldn't be held back to wait for the class and get frustrated and bored.

While there were favorable reactions, there were also cautionary comments voiced. Thirteen parents felt that the academically slow child, the unaggressive child, or the lazy child needed to be "pushed", or given close supervision

to make him work, particularly in the first year of school. Supervision was also needed to maintain general classroom discipline, to control the misbehaving children, and to provide tutorial assistance or teacher direction.

Several people were concerned that the children who completed the materials at too early an age would "lack the [social and academic] maturity to utilize their brilliance in higher grades." Concern was also expressed by people who planned a move and wondered how their child would be placed in a new school, and whether he would have to repeat work. The two comments which qualified the negative reactions were:

> My child doesn't care about anything so he needs to be led, not let free.

> The children could become sloppy workers if they are self-directing.

TABLE I

NUMBER AND PERCENTAGE OF RESPONSES TO INTERVIEW SCHEDULE ITEM 3*

Response	Number	Percentage
Affirmative Reaction	27	77.2
Mediocre Reaction	6	17.2
Negative Reaction	2	5.6
Total	35	100.0

*What is your opinion of your child working at his own rate of speed in the I.P.I. program at school?

Question 4. What are parental opinions about the non-existence of arithmetic homework in the I.P.I. arithmetic program?

The reactions of the respondents to the fact that children no longer did homework in arithmetic were divided. Furthermore, many of those who gave a positive or negative reaction to the question qualified that reaction. Three respondents could not answer the question.

People gave several reasons for responding positively to the question regarding arithmetic homework. Mainly, they felt children needed time to play or become involved in such community activities as social clubs, Boy Scouts, and hockey. The children would have homework soon enough when they entered junior high school or high school. Homework was not needed because the teacher no longer attempted to keep the class working together on the same materials. Also, the child mastered his material in class, so he did not need additional practice at home. Other qualifying factors perceived were: lack of parental time or ability to help the child with his arithmetic at home, amount of pupil time spent in travel (via school bus), opportunity for the child to work away from the noisy, distracting home environment, and freedom from anxiety about being reprimanded for not doing or finishing his homework.

While sixteen of the parents agreed that the feature was desirable, they restricted their agreement in the

following ways:

> ... unless they are having arithmetic problems or are behind, where work at home would help.
>
> Some drill in basic skills at home would help.
>
> ... although gaining the discipline of being able to do homework study skills is valuable.
>
> ... provided they master their work in school.
>
> However, we can lend them moral support if they bring it home.

Many of the sixteen parents who thought there should be arithmetic homework were frustrated because they no longer felt involved and did not know any of the particulars about the work the children were doing at school. "Were they doing fractions? Were they working neatly? Are they learning anything?" These were a few of the concerns expressed. Most of the sixteen respondents felt homework would help their children "advance" or "keep up". Many were concerned that the elementary school child, particularly in the upper elementary division, learn to acquire or practice home based study skills, work habits, and time utilization. Other comments included the following:

> Some homework would keep him busy, instead of watching the idiot-box [television].
>
> ... so she needs time to reflect over her homework in friendly surroundings.

> Homework, for the sake of homework, develops responsibility and occupies time.

Although they said there should be arithmetic homework, four people restricted their comments in the following ways:

> ... I must admit, though, that it's peaceful not to have it.
>
> The long bus ride makes it hard.
>
> Having too much homework is bad.
>
> Homework should not be used as a punishment.

Three respondents would not or could not react to the question. One lady said her child never did have homework so she could not answer the question.

Table II shows the number and percentage of responses in reply to the interview item.

TABLE II

NUMBER AND PERCENTAGE OF RESPONSES TO INTERVIEW SCHEDULE ITEM 4*

Response	Number	Percentage
Positive	16	45.8
Negative	16	45.8
No Answer	3	8.4
Total	35	100.0

*What are your comments concerning the fact that there is no arithmetic homework?

Question 5. What are parental opinions about the child assuming responsibility for his own progress in the I.P.I. arithmetic program?

The reasons the eighteen respondents gave for answering "yes" to the corresponding schedule item centered around a perceivable change in the child's motivation or attitude towards arithmetic.

> ... highly motivated by I.P.I. ....
>
> ... the children are really pleased with their progress.
>
> My children are working harder, trying to get in a higher bracket.
>
> I find that by completing units, the child finds this rewarding and he's become increasingly conditioned to seek this reward.

Two of the eighteen comments centered on the point that the children's new found independence had made them assume a more responsible attitude because they now recognized that their progress was dependent on their own initiative. Also, four others of the eighteen respondents thought their children had taken more responsibility for his progress because of his increased interest and enjoyment of arithmetic. Three respondents said "yes" but were rather indefinite in the development of their answers. The remaining seventeen respondents said there was "no change" or that they could not answer the question.

Most respondents, who said there was no change in the child's attitude toward assuming responsibility for his

progress, claimed he had formerly been responsible and had previously progressed well. The other comments were:

> ... he can't grasp the material and doesn't want to.
>
> I haven't observed any change.
>
> A grade one student isn't capable of accepting this responsibility and needs teacher guidance.

Table III illustrates the number and percentage of responses elicited.

TABLE III

NUMBER AND PERCENTAGE OF RESPONSES TO INTERVIEW SCHEDULE ITEM 7*

Response	Number	Percentage
Yes	18	51.4
No Change	13	37.2
No Answer	4	11.4
Total	35	100.0

*Has this new program had any effect upon your child accepting responsibility for his progress in school? (Probe: Explain your answer.)

Category Two

The next three questions sought parental opinions of the effect the I.P.I. arithmetic program had upon their children.

Question 6. What are parental opinions about the

child's achievement in the I.P.I. arithmetic program?

Parents judge the achievement of their child in the I.P.I. arithmetic program in various ways. They made reference to the following terms, in answering interview item 9: "marks, greater understanding, more accurate, less arithmetic problems, less review needed, progressing, completing work, mastering to the best of their ability, goal-reaching, enthusiastic or interested, catching on", and "doing better compared to the textbook method used last year".

Most parents were satisfied with their child's achievement in I.P.I. arithmetic, with twenty-nine, or 82.9 percent, responding in a positive way. Six parents, of those who were satisfied, qualified their statements by crediting the high quality of the schools and the competency of their staffs as being partially responsible for the child's achievement. Three qualified their satisfaction by stating that they had difficulty in comparing the achievement as shown on the I.P.I. Student Profile sheet with the percentage allocation of former years. One parent said his child had always achieved well. Three parents, or 8.6 percent were not satisfied because their children were "behind" or were "not working to capacity". Three respondents, or 8.6 percent, stated that they could not comment because they did not know to what I.P.I. arithmetic achievement was relative or because they felt that the report

of marks was not understandable or clear. The allocation of responses is shown in Table IV.

TABLE IV

NUMBER AND PERCENTAGE OF RESPONSES TO INTERVIEW SCHEDULE ITEM 9*

Response	Number	Percentage
Satisfied	29	82.8
Not Satisfied	3	8.6
No Comment	3	8.6
Total	35	100.0

*What opinion do you have about your child's achievement this year in the I.P.I. arithmetic program?

Question 7. What are parental opinions in regard to the child's attitude, behavior, or relationship with peers, family, and adults outside the school?

Parents indicated an awareness that the attitudes and behavior of their children undergo changes over the years. They called this phenomenon "maturing". Because of the natural maturation process, eleven respondents, or 31.5 percent, said they could not say for certain that any changes in their children were not simply normal changes. Perhaps, any people who responded "yes" to the question, did so because there were dramatic changes.

Parents did not seem able to comment about the child's attitude or behavior towards peers or adults

outside the home, but those who responded "yes" to the question noticed dramatic changes in the home. The eight subjects responding this way all had small families of one, two, or three children. They said the children were more self-confident or independent, more relaxed, and more responsible at home. As a result, some parents said they were doing less nagging to get household tasks completed or were applying less pressure to stop child arguments or to control emotional outbursts. Children in small families were "less demanding" on their parents. Four of the eight parents were very enthused because their children had formerly been frustrated, moody, or neurotic, whereas soon after I.P.I. was begun, these conditions abated or disappeared. Half of the eight subjects thought that the fact their child talked to them about I.P.I. arithmetic showed an attitude change towards communicating with their parents about school -- a condition which had not previously existed. There were negative changes too. Two parents, who said they maintained strict discipline at home, found their children became "smart-alecky" or "high-hatted" with them at the start of the I.P.I. program. One child talked less respectfully about his teachers.

One parent, who personally could see no change in his own child, reported a conversation he had with a grocer who had a store beside the school. The grocer was not aware of I.P.I. being used in the school, and had no

children of his own. The parent reports:

> He noticed a change in the students who came in his store this year. They were more at ease, more free. Before, they would come in and wait until he asked what they wanted. Now they show no hesitation and go pick things out of the shelves themselves. They are more confident. He says they are so polite -- there is a different caliber of students coming into the store nowadays. There has been quite a change.

Table V reports the results from the corresponding interview item.

TABLE V

NUMBER AND PERCENTAGE OF RESPONSES TO INTERVIEW SCHEDULE ITEM 5*

Response	Number	Percentage
Yes	8	22.9
Normal Change	11	31.4
No Change	15	42.9
No Answer	1	2.8
Total	35	100.0

*Has the I.P.I. arithmetic had any effect upon your child's behavior or attitudes outside of school? (Probe: Explain your answer.)

Question 8. What are parental opinions about the effect the I.P.I. arithmetic would have upon the child's attitude toward school in future years -- primarily in junior high school and senior high school?

Parental reactions to this question were varied.

Most thought the I.P.I. experience would affect their children in both desirable and undesirable ways. They indicated that their reasons for reacting this way was because the I.P.I. was an individualized, non-graded system while the junior and senior high school programs utilized group teaching methods in a graded pattern. Parents also answered this way because individual children would react differently to the changes encountered in future years. Concern was expressed, by ten respondents, about the lack of continuity between elementary and junior high school programs. They thought that: (1) children would have difficulty adapting to junior high school, (2) some children would become frustrated and bored waiting for others to "catch up" to their progress level, (3) the children would "balk" or resist conforming to an individual-restricting educational pattern re-imposed upon them in junior high school, and (4) the children may "... be part way into a grade and will either have to repeat material or skip material to begin grade seven".

In addition, twenty-six parents indicated that experience with the I.P.I. program would have a beneficial effect upon the children's attitudes toward school in future years. Several benefits were described. The children would develop work habits and study skills which they will maintain. The children would acquire independence and self-confidence through self-direction which would enable them

to adapt to any method of learning in the future. The children would be more interested and enthusiastic about school in general, and mathematics in particular, in junior high school because of the enjoyment and satisfaction they experienced with I.P.I. arithmetic. The final benefit mentioned was that I.P.I. materials gave the children a good, broad academic foundation in arithmetic which would prepare them for senior mathematic and science courses.

Three parents thought the I.P.I. would prove detrimental because the teachers do not "push" the lazy or unmotivated children and these children would develop poor work habits which they would carry with them into junior high school.

Three comments were made that there would be no effect either way upon the children's attitudes toward school if individualized teaching methods were not used in higher grades.

Six parents did not know how the I.P.I. arithmetic program would affect their children's attitudes toward school in future years.

Category Three

The next nine questions sought parental opinions concerning personnel, communication, and administrative variables connected with the I.P.I. arithmetic program.

Question 8. Is the I.P.I. arithmetic program causing any changes in the parent's relationship with the teacher(s)?

An examination of the responses indicated there was no change for some, increased contact with the teachers for others, or less contact.

There were twenty-two or 62.9 percent of the respondents that said there was no change in their relationship with the teacher. The majority of these parents claimed to have had a good previous relationship with their child's teacher.

However, twelve or 34.3 percent of the respondents had increased contact, primarily through the initiation of the formal parent-teacher interview. Many of these people had no contact with the teacher previously. They felt that the interview held early in the school term "broke the ice", and they felt welcome to contact the teacher at any time because she "... seemed more approachable after that". These respondents claimed to have gained some insight into the teacher's personality, her interest in their child, her role, and her problems in achieving instructional objectives. Twelve respondents who had met the teacher previously, but who had increased contact through the interviews, said they now felt that they had a closer relationship because they had an increased exposure to the teachers' ideas, had some indication of what the teaching objectives were, knew how

the teachers "handled" the children, and learned more about the problems their children had in school. They now felt more willing to cooperate with the teachers. One of the parents was "... no longer tense about meeting the teacher because of where the teacher would place [mark] my child in relation to the rest of the class".

One parent said she had less contact with the teacher "... because my child has fewer problems now".

The number and percentage of responses are shown in Table VI.

TABLE VI

NUMBER AND PERCENTAGE OF RESPONSES TO INTERVIEW SCHEDULE ITEM 11*

Response	Number	Percentage
No Change	22	62.9
Increased Contact	12	34.2
Less Contact	1	2.9
Total	35	100.0

*Would you tell me about the effect the program has had upon your personal relationship with your child's teacher? (Probe: Has it changed this year as compared to last year?)

Question 10. Is the I.P.I. arithmetic program causing any changes in the parent's relationship with the school principal (and vice-principal)?

The results of this question are summarized in

Table VII. "Relationship" was interpreted as the frequency of contacts between parents and the principal or vice-principal.

TABLE VII

NUMBER AND PERCENTAGE OF RESPONSES TO INTERVIEW SCHEDULE ITEM 13*

Type of Contact**	Number Responding	Percentage Responding
Some Contact[a] but no Change	20	57.2
No Contact[b]	10	28.6
Increased Contact[c]	3	8.6
Less Contact[d]	2	5.6
Total	35	100.0

*Would you tell me about the effect the program has had upon your relationship with the school principal (and vice-principal). (Probe: Has it changed this year as compared to last year?)

** [a]The Principal (or Vice-Principal) taught the respondent's child, or the parents had met them at Home and School meetings, or had received a telephone call, or had other casual contact. Although the respondents in this category had some contact, there was no decrease or increase in the number of contacts compared with the previous year.

[b]The respondent had not talked to or contacted the Principal this year or last year.

[c]Parents turned to the Principal to get information about the I.P.I. program because the teacher was too busy to talk to them when they visited the class.

[d]Occurred in two cases.

There were very few comments expressed in connection with this question. Six respondents, three in Edmonton, and three in Calgary, stated that parents need contact the principal or vice-principal only if they have problems with their child in school. These people had fewer problems since I.P.I. was implemented.

Several parents in each school district praised their principal and vice-principal in a number of ways as "... excellent", "real dedicated", "loved by the children", "has good communication lines open to the parents", "progressive thinkers", "good executives [administrators]", and "... leaders, if they can get some teachers to try new things".

Question 11. What are parental opinions about the practice of hiring teacher-aides to assist with clerical duties connected with the I.P.I. arithmetic program?

The subjects were almost unanimously in favor of the idea of hiring teacher-aides, with thirty-three, or 94.4 percent responding this way. One other respondent was also agreeable, but stated:

> It's a good temporary idea but they need computer assistance in the I.P.I. program. Computer time will soon be cheaper than employing the adequate number of aides, particularly if the volunteers eventually withdraw.

The one dissenter gave her reason as:

> It adds to school costs and teachers were hired to do the work.

Various reasons were given for stating that the hiring of aides was a good idea. The first, repeated by twenty-three people, was that the classes were too large for one teacher to give the children the proper individualized attention. By having the aide do the clerical tasks, the teacher was given time to do more productive and effective work such as researching, evaluating, diagnosing, motivating and creating. Other reasons are quoted below:

> More adults in a classroom adds [sic] variety to the child's school experiences.
>
> If you want to individualize instruction you are going to have to be willing to pay a little extra.
>
> It saves money by hiring someone for less pay to do some of the less important tasks for the teacher.
>
> Why not? Truck drivers have helpers! Nurses have helpers! Carpenters have helpers! Teachers need helpers too!

Although strongly in favor of the idea, eight people suggested several detrimental effects. The aide may not be ethical and could release information about her own children at home or about other children in the community. The aides may attempt to do things they are not trained or qualified to do such as teach, or unwittingly undermine the influence and authority of the teacher in the classroom. There also could be a personality clash between the teacher and the aide, which would be detrimental to the class. With aides, beginning teachers could be slower to mature

professionally because "... they can sit in I.P.I. and play doctor" letting the aide do menial tasks which the beginning teacher needs in order to mature.

Question 12. What are parental opinions about parental volunteers working in the school and assisting in the marking of I.P.I. worksheets?

Although none of the respondents were parental volunteers working in the schools, thirty-one or 88.7 percent thought the idea was a good one. There were three benefits described. The parents who volunteered received the greatest benefit, according to twenty-three respondents. They became involved in the program gaining insight into the school's operation, the teacher's role, the teaching techniques, the mathematics, and their child's role and relationship to the program. The results, according to parents, would be an increased parental interest in education with implications for the local school's philosophy of education and the politics related to education. A more personal type of benefit to the parent volunteer was the chance to leave the household, meet others, exchange ideas, and derive pleasure from working with school children. The spouses of the volunteers were better informed through this association with the school, and some of the children were more enthusiastic in the knowledge that their parents were taking an interest in the school program. The second main

benefit, as reported by nine parents, was that volunteers help the teacher with the work load, releasing the teacher from marking so that she could give more individual attention to students. The third benefit described was that the use of volunteer help saved school tax dollars.

Several detrimental effects were described. Six parents felt that possible detrimental effects could occur if parent volunteers were not ethical. Any gossip or mention to a parent of the progress or personal working habits of an individual child, whether good or bad, might arouse suspicion or resentment of volunteers. Six other respondents felt that a possible detrimental effect could occur if the volunteers came into conflict with their children, either at school, or at home, because of what they observed. One of these parents stated, "I know there is tremendous pressure on children to perform well in Cubs if their parent is a leader. The same situation could occur in the volunteer system".

Other possible detrimental effects can be listed.

> There could be parent-teacher personality conflicts.
>
> If there is not enough work provided for volunteers they could get bored and withdraw.
>
> As in any service club, there are many volunteers at the beginning, but this number tapers off for various reasons. In two years the I.P.I. program could be in trouble.

> If the teacher has more released time she may overwork the children to justify her time.
>
> Too many adults in the class could confuse the child.

Question 13. What are parental opinions about communications between parents and the school?

Parents communicate with the school in a variety of ways: parent-teacher conferences, school functions, casual visits to the school, telephone exchanges, personal letter exchanges, word-of-mouth messages through the child, xeroxed newsletters from the school, home and school functions, report cards, and teacher written comments on notebooks.

This question revealed very little information probably because all parents reported that the general communications with the school were adequate and had been adequate the previous year as well.

Question 14. What are parental opinions about the techniques used to report the child's progress in the total school program?

Progress was reported to parents in similar ways in the three schools. The interviews revealed opinions about regularly scheduled parent-teacher conferences, report cards, I.P.I. Student Profile sheets, telephone conversations, reports by the children themselves (child reports), and

privately arranged parent-teacher interviews.

Parent-teacher Conference

There are twenty-nine comments made about the regularly scheduled parent-teacher conferences. These comments, combined with the twelve comments about the report cards, made up the majority of the opinions expressed.

A majority liked the scheduled parent-teacher conference but stated a number of criticisms. A description of desirable and undesirable features follows under five headings.

The parent and the school. Many parents were enthusiastic about their involvement with the school through the conference. They felt they were able to become more familiar with what transpired in the school. Through the personal contact with the teacher, they said they gained a greater appreciation of her personality, her role, her problems, and her attitude toward their children.

A typical comment was, "I prefer the personal contact ... the report card is so cold and limited a way of communicating".

Criticisms mentioned were few:

> We need more frequent interviews to learn what is going on in the new [I.P.I.] program.

> Teachers can frighten or intimidate parents if they have a troublesome child and seem to lack self-confidence when talking to the teacher in the conference.

Exchange of information about the child. An exchange of information about the child occurred which gave the parent and the teacher a greater understanding of the child's personality problems, social problems, and work problems, as well as a greater understanding of his behavior and attitudes. Opinions were exchanged about child rearing which resulted in greater cooperation between parents and teachers. Parents also felt that teachers gained an insight into home conditions which may have been relevant to a child's school problems.

The effects of the interview upon children. The actual comments follow:

> The children were interested in hearing our report about the interview because it gives them some feedback.
>
> ... and this way children can't find out all the details [of the progress report] which weren't all meant for little ears.
>
> ... better than the old report card because our kids can't compare marks and fight because one did better than the other.
>
> Interviews aren't too good for the children because they have to rely on us to give them a report and sometimes they are suspicious and resentful of what was discussed.

Parental opinions of conferences as a means of reporting the child's academic achievement and progress. In general, parents perceived the conferences as a supplementary means of judging the child's achievement and progress:

Report cards alone don't let you make a judgement of your child's progress. Interviews along with report cards provide a broader analysis.

... they clarify other vague reports. The report card and the I.P.I. Profile sheet are too general and don't tell you much.

During conferences you get to see the child's school work.

You don't get enough information to be able to know what to give him at home.

The interview reports about my child, as an individual real well, but the way he compares to the class is very poorly reported.

... valuable only if the parent has questions and feels it is necessary.

Administration of the conference. Although parents praised the conferences they expressed several criticisms, as well as some compliments, about the administrative arrangements. Some parents felt that the conferences dealt with topics in too general a way and did not give much specific information. Several comments on this topic follow:

> There were too few of them to keep you well informed about your child's progress.
>
> Highly structured interviews are a bore because they are simply a verbal report card given within a limited time period.
>
> ... there isn't time to discuss the child's progress in several subjects taken over a three month time period, as well as his personality development.
>
> ... very general because of the time limit ....

Several people in each school made a comment similar to the following:

> The interview is adequate but my husband is a trucker [or works] and can't go to it. We have four children in the elementary school and I can't remember details about the interview about each child. What I need is a brief summary of the interview that I can give my husband when he comes home at the end of the week.

Other comments follow:

> ... prefer to be invited when and if needed instead of being obligated to go.

> They are well organized and you don't have to stand around and wait.

Report Cards

The opinions expressed by parents about report cards were divided between acceptance or rejection.

Approximately half of the parents liked the "satisfactory" or "not satisfactory" type of rating because it no longer enabled the child to compete with others in the class. One parent said, "Reports are great social levellers". Some felt that the only information that needed to be expressed on the report card was that the child was doing satisfactorily and was interested in school. One respondent expressed delight that no longer could any parent compare his child with another's child:

> I believe there should be competition, but among the children at school, not among the parents.

Other comments that favored the present report card form included:

> Any type of report card marking system used is alright because it's either a comparison with the class, or it's the child's progress compared to his previous achievements.
>
> The most valuable part of the report card is the report on the development of the child's personal qualities.
>
> Having the report card is good because we can't always get in for the conference.

Approximately half of the parents did not like the "satisfactory" or "unsatisfactory" ranking system. The opinions of dissatisfied respondents centered around a desire to know how their child compared to the class mean average in terms of achievement and progress:

> ... dislike the new report because it is different than the percentage system.
>
> ... don't have much meaning because marks are based on tests or criteria that we are unfamiliar with.
>
> You certainly can't compare your child with the class.
>
> I want percentage marks because I'm confused by the changes. I want to know if he is an underachiever, an average achiever, or an over-achiever.

There were several other opinions stated by dissatisfied respondents:

> The terminology used by teachers in the "comments section" of the report card is too vague.
>
> The satisfactory or not satisfactory rating used is too generalized to give me any specific information for analyzing my child's problems.

> There are several different marking systems used in our school according to the teachers' preference. I find teachers in Alberta tend to scale marks, with a high, average, and low, no matter what the class mean is. The idea behind an individual program is for students to master their material. How can mastered results be ranked?

I.P.I. Student Profile Sheet

Sixteen parents said they had difficulty understanding or interpreting the I.P.I. Student Profile sheet because it was not based on grade divisions (a child could be in several different levels in the different content areas) and because it did not enable them to compare their child's progress with the average class progress. Several parents objected that there were no explanations of what concepts and exercises were covered in various units.

Telephone Conversations

All respondents felt the telephone was their most intimate link with the school. Although some had not used the telephone, all felt that it was the best means of communicating with the school for answers to questions and for incidental reports about the child.

Child Reports

The verbal reports of the child were valued by parents as a type of "sounding board" which would indicate the child's attitude and daily achievements in school. In general, they concluded that a child's report was sincere,

and a spontaneous, happy report indicated that the child was interested in his schoolwork. An emotional outburst usually indicated frustrations. If the child was upset too often parents felt that a problem existed which needed to be rectified and so they would contact the school. Because the child's report was never too accurate, most parents did not rely on their children for information, but they placed considerable value on the child's emotional reactions.

Privately Arranged Parent-teacher Interviews

For those parents whose children had occasional academic or behavioral problems at school, the private interview was highly valued. They felt the interview most valuable if it was held as soon as the problem became evident and was conducted informally with a free exchange of opinion.

Question 15. At the end of the first eight months of trial, would parents be prepared to comment on the I.P.I. program or method as being valuable enough to justify the expenditure of funds on its implementation?

As shown in Table VIII, twenty-nine respondents, or 82.9 percent, answered "yes" to the interview item. They felt the program to be worth its cost. They qualified their answers either by stating why they valued I.P.I. arithmetic, or by stating justifications for implementing the program.

Ten people placed limitations on their qualifications.

I.P.I. arithmetic was valued for the effect it had of creating more enthusiasm and motivating their children so that school became more interesting or likeable. Because of this, parents felt I.P.I. was a superior instructional method, and was an improvement over the text-book approach. Several people felt the I.P.I. method made the child's mind more alert and resulted in the learner being able to think more clearly. The concept of master-ing materials was valued because parents felt that slow, medium, and fast working children would become more skilled in arithmetic. It was felt most children were benefiting from individualization of instruction. None were being held back or being forced to catch up with the class.

TABLE VIII

NUMBER AND PERCENTAGE OF RESPONSES TO INTERVIEW SCHEDULE ITEM 6*

Response	Number	Percentage
Yes	29	82.9
No	4	11.4
Unanswered	2	5.7
Total	35	100.0

*As an on going evaluation, do you see the I.P.I. method or program as valuable enough at this time to justify paying the extra cost? (Probe: Explain your answer.)

Parents stated four justifications for expending money on I.P.I. arithmetic:

> We change textbooks, why not change into I.P.I. materials?
>
> Any money spent on education is well spent, if it works.
>
> Never put a price tag on the education of a child. It's beyond equating the cost for returns.
>
> Educational expenditure is a legitimate expenditure for the returns compared to expenditure for pleasure with less returns.

All the limitations, stated in regard to some of the qualifications, follow:

> ... conditional to remedying any undesirable features.
>
> ... depending on a long-range evaluation. (Two to three years.)
>
> ... if they'd put it in all schools.
>
> ... provided the materials aren't too simple for bright children.

There were only three reasons given for answering "no" to the questions:

> I can't see that my child is doing any better than he was in the regular program.
>
> I pay too much tax now.
>
> What's so great about it? Inventive teachers are doing a lot of things to individualize instruction in other schools and money isn't being spent on their programs.

Through interviewer oversight, the question was not asked of two respondents.

Question 16. What comments are parents likely to direct to school board officials or trustees before similar programs, using the I.P.I. method, are implemented in other elementary school subjects such as reading, science, or spelling?

Most respondents gave several comments in reply to this question. Twenty-seven comments evoked by this question were concerned with the concept of individualizing instruction. There were seventeen suggestions for school board officials concerning the implementation of I.P.I. programs in other subjects, twenty-two comments on school board expenditure in partial answer to the question, six were concerned with the effect upon teachers, and seven were concerned with parental involvement.

Individualizing Instruction

Approximately 85 percent of the thirty-five respondents consider the good effects of the I.P.I. method upon the child, as an individual, an important consideration in making a decision to implement I.P.I. in other subjects. Self-direction, working at their own rate, and mastery of materials are very desirable features because they result in satisfaction, interest, independence, self-sufficiency in problem solving, and development of initiative in the

child. Most children were no longer as bored, frustrated, or anxious as they were previously. Teachers need not be as frustrated with an I.P.I. program. Several parents were encouraged by the progressive move toward individualizing instruction in their districts. Several respondents urged school board officials to start I.P.I. programs in other grades, and in other subject areas, primarily in reading, because the development of reading skills is highly personal and differs from individual to individual. There were only two cautionary notes:

> I.P.I. isn't the only individualized program which should be tried if the board aim is to individualize instruction.

> Letting children work at their own individual rate of speed is good, but they should be kept in the same room as their age-peers.

Implementation of I.P.I. Programs in Other Subjects

The seventeen comments about implementation are all cautionary notes directed at school board officials. The most often repeated statement was to emphasize the importance of doing extensive research and development before initiating any widespread acceptance of new programs.

A typical comment was:

> ... it's novel and exciting. We jump in with both feet and it fails. This has happened repeatedly in the past. It needs careful trial, over several years, and in all types of elementary schools, rich and poor, old and new. Then it must be evaluated carefully and the weaknesses and errors

> corrected before starting it on a widespread basis. Everyone should be told about the weaknesses.

Some people perceived that the success of the I.P.I. method "... hinged on having a particularly well qualified and dedicated staff willing to put in the time on the new course".

Another point of concern was about the lack of continuity between elementary school programs and junior high school programs. It was also pointed out that: (1) grade one pupils have several specific problems related to I.P.I. arithmetic that need separate appraisal; (2) the novelty effect might wear off for the children, volunteers, and teachers if the method were used in too many subjects; (3) the high student-teacher ratio was detrimental to individualization of instruction; and (4) there was a need to reach parents with information to publicize the new program, and to keep them informed.

Expenditure

Of the total sample of thirty-five, nineteen respondents, or 54.3 percent, were in favor of increasing taxes to pay for improving educational standards with programs such as the I.P.I. arithmetic.

> If we want to be progressive in education, making improvements, we will have to pay more taxes to do it. The increased expenditures are worth it.

Several people compared the school assessment they paid per child (through property taxes) to the amount they would have to pay for their child to attend a private school, or to the amount they paid a private community club (for far less value to the child, according to the respondents), or to the amount they spent on luxury items such as liquor or cigarettes.

There were thirteen respondents, or 37.2 percent who did not mention their attitude toward school expenditures, specifically, but all valued the I.P.I. program, to some degree, knowing there would be an increase in school costs if there were widespread implementation. Several people desired more efficiency in the manner in which tax money is spent. They wanted something tangible to be shown for expenditure and indicated the need for a continual reassessment of spending priorities. A sample comment is:

> I think we are paying for a lot of extras that are not necessary, but I don't feel qualified to specify these. However, if we want improvements, we're going to have to pay for them.

Two other qualifying statements follow:

> Expenditure on new programs is needed but don't spend too much too fast or we won't realize the benefits of each program.

> ... expense for clerical help, and materials has to be expected.

Three respondents, or 8.5 percent, were definitely not in favor of increasing school taxes:

I say damn the costs, I pay enough as it is!

Teacher Variables

Six respondents directed comments to school board officials concerning teachers:

> I.P.I. has too much paper work for the teacher to do. The Board has to back up any commitment to I.P.I. by continuing to provide clerical aides or computer assistance. They can't rely on community volunteers to keep coming over the years.
>
> Because of the work involved in an I.P.I. subject, the decision to start it in other subjects mustn't be imposed on the teachers from above. Give them the facts and it should be up to them.
>
> I.P.I. will make for better teachers.
>
> In big classes, I.P.I. should relieve some teachers because some of the kids can be self-directing.
>
> ... the teacher can play doctor. With students, volunteers, and aides in the room depending upon teacher decisions, too much power is vested in the teacher which may produce autocratic teachers. However, some teachers just might shine in this situation, and become better teachers for it all.

Parental Involvement

Three parents said they think there is a need for parental instruction in the new mathematics offered by the school because people are interested in the work about which their children are so enthused. Other comments directed to school board officials follow:

Parents should have some say in the selection of trial programs because there are value judgements involved. Perhaps through Home and School they could give their opinion and have an influence upon the way they are implemented.

I think parental involvement should be limited because educators who put these things in are trained and objective. Parents aren't trained and have an emotional involvement because of their children.

Inform parents as to the credibility of I.P.I. before it is put in other subjects. Use the approach "What I.P.I. can do for your child". Words like "individualization" leave parents cold.

Keep communication lines open between parents and trustees. Trustees never come out to talk to parents that I know of.

Another question posed in the interviews is relevant to the report to school board officials. The item asked, "When you talk to people not working in the school, what sort of things about the school are most often discussed?"

A variety of topics was discussed by parents with their friends or colleagues about the local elementary school or about schools in general. Several claimed they had praised or explained the I.P.I. program to interested acquaintances. Numerous other topics were discussed, either in a complimentary or derogatory sense, but none which had any relationship to the success or failure of any features of the I.P.I. project. These topics included teacher's wages, teacher personality clashes with students, the progressiveness of teachers, teachers' improving

qualifications, the dedication of teachers, complimentary male comments on the many good looking lady teachers, general discipline and supervision strengths and weaknesses, school climate, large classes, disapproval of two grades in one self-contained room, art display, poor use of school facilities at night or on the weekends, school sports, complaints about various aspects of several school subjects including their content, religious classes, transportation of children by bus, the efficiency used in the spending of the school tax dollar, report card format, parental problems of adapting to educational change, comparisons of the achievement and progress of children, and children who are trouble makers in schools.

One respondent summed up rather aptly the importance of placing a value on the topics discussed by parents:

> If the child is happy and is doing well in school, the parent is probably happy. If he's not doing well, the parent is probably looking for something to complain about.

Question 17. What opinions would parents express about using the local school to start another experimental program after the I.P.I. project was completed?

When parents stated agreement with using the local school for continued educational experimentation, several qualifications were given. People were usually quite receptive provided the changes in program did not occur too rapidly in succession and make it difficult for the children

to adjust. The parental concern for child adjustment was the reason five respondents said they would not want the school used for further experimentation.

Among reasons for using the school for experimentation are: (1) teachers improve, and are continually trying various teaching methods; (2) the I.P.I. program was a successful program and benefited the school children; (3) the school has a good staff and the facilities for experimentation; (4) parents trust the scrutiny and planning of administrators and school board officials prior to new program implementation; and (5) they have a willingness to see experimentation with programs which are a good risk in relation to their cost.

The reasons for not using the local school for another experiment included:

> Almost any program would be a step back from the I.P.I. program.
>
> If the present program is good, stick with it. If it has limitations, correct them.
>
> A new experiment could disrupt the staff, causing change-overs.
>
> ... would cause adjustment problems for our children.

The results to the interview question are shown in Table IX.

TABLE IX

NUMBER OF PERCENTAGE OF RESPONSES TO INTERVIEW SCHEDULE ITEM 18*

Response	Number	Percentage
Receptive	27	77.2
Non-commital	1	2.8
Non-receptive	7	20.0
Total	35	100.0

*Explain why you would or would not want your school to be used to start another experimental program after this one is completed?

III. DESCRIPTION OF RESPONSE THEMES

The data revealed opinions which can be grouped into themes. There were two main types of themes which emerged, the individual respondent's themes and the general opinion clusters which were isolated by analyzing the cumulative findings.

In twenty-four interviews, a variety of individual respondent themes clearly emerged within one or more of the categories of interview questions. The first category of questions asked for parental opinions of certain features of the I.P.I. arithmetic program. The second category consisted of questions which sought opinions concerning the effect the I.P.I. arithmetic program had upon the child or children. The third category of questions was concerned with parental opinions or comments about personnel,

communication, and administrative variables connected with I.P.I. program. The themes, or "trains of thought" which emerged within the categories varied. An example of a theme found in the first category was an enthusiasm about the fact that the child could work at his own rate through the materials. The enthusiasm for this feature seemed to bias the answers given to all the questions in the category. An example of a respondent theme found in the second category of questions was a preoccupation with the child's enthusiasm for the I.P.I. program. An example of a theme which emerged in the third category of questions was a preoccupation with the expenses connected with the program.

The second type of theme, the opinion clusters, which emerged from the data will be described in more detail.

Theme 1: I.P.I. Programmed Materials

Throughout the interviews references were made to the I.P.I. programmed worksheets, or units, and the Student Profile sheet, which together provided the record of the child's progress in the materials. A summary of comments and opinions related to this topic follows:

(1) Since children were enthusiastic and interested in the I.P.I. program, parents felt that the use of I.P.I. materials was a superior instructional method and was an improvement over the textbook approach. Several people

said the I.P.I. materials gave children new or different work habits and study skills which would be valuable in future years of schooling. I.P.I. materials also gave the child a good, broad academic foundation in arithmetic which would prepare him for senior mathematic and science courses. Satisfaction with their child's achievement in arithmetic was expressed by twenty-nine, or 82 percent of the respondents.

(2) First year students had particular problems with the I.P.I. materials. At the beginning of the year the children could not read the instructions in the work-sheets and so had to wait until someone read to them. Beginning students had few developed work habits which are needed to use programmed materials effectively.

(3) Three respondents said that their children, who were superior students, complained that the materials were too simple at many points to be a challenge.

(4) There were eighteen, or 51.4 percent, of the parents who valued the change in the child's motivation or attitude toward arithmetic because through completing the programmed materials the child was enthused or interested in progressing. First, second, and third year students measured their progress by the number of pages they completed daily. Fourth, fifth, and sixth year students measured their progress by the number of units they mastered.

(5) There were eight, or 22.9 percent, respondents who saw dramatic changes in their child's behavior or attitudes in the home (most of the changes were good). They thought that the independence and satisfaction gained from working with the I.P.I. materials gave self-confidence to their child and in this way they were more emotionally stable which reflected in their behavior and attitudes.

(6) Approximately 85 percent of the total population interviewed liked the I.P.I. plan for individualizing instruction. However, the design of the method and the materials were criticized in some ways. Some parents felt that the academically slow child, the daydreaming child, and the lazy child needed closer supervision than he received to make him work through the materials. There were several opinions expressed concerning the conviction that children needed more drill or memorization of basic facts such as the multiplication facts and standard measures. There also was a concern about some children completing all the elementary school materials, in a non-graded system, at too early an age so that they would be too immature to cope with the group instructional methods used in junior high school. Non-graded material was a problem for the physically mobile families who were planning moves out of the system.

(7) The Student Profile sheet was either sent home with the report card or was shown to the parent during the parent-teacher conference. Most parents said they had

difficulty understanding or interpreting the sheet because it was not based on grade levels or grade distinctions (a child could be in several different levels in the different content areas), and it did not enable parents to compare their child's progress with the progress of the class average. Several parents also objected that there were no explanations of what concepts and practice were covered in various units.

(8) Forty-five percent of the respondents valued homework in arithmetic which was not a feature of the I.P.I. program.

Theme 2: Desirable Features of the I.P.I. Experimental Arithmetic Project

Reference to features which parents felt were desirable were mentioned throughout the interviews. Most respondents mentioned particular features several times. The frequency of these comments are tabulated and are reported, in summary, in Table X.

Theme 3: Undesirable Features of the I.P.I. Experimental Arithmetic Project

References to undesirable features of the I.P.I. experimental arithmetic project emerged throughout the interviews. The frequency of these comments were tabulated and are reported, in summary, in Table XI.

TABLE X

ANALYSIS OF DESIRABLE FEATURES MENTIONED DURING THE INTERVIEWS

Item	Feature Described	Frequency
1.	Children can work at their own speed	58
2.	Teacher-aides were hired	33
3.	There were benefits using parental volunteers	32
4.	There were benefits in parent-teacher conferences	32
5.	Instruction was individualized which developed the child's unique scholastic and personality strengths	30
6.	Children mastered materials and attained a better background in mathematics	28
7.	Children enjoyed or liked I.P.I. arithmetic	26
8.	Children achieved satisfactorily	26
9.	I.P.I. had a beneficial effect upon the child's attitude toward school in future years	26
10.	Children were more self-confident, independent less tense, more responsible at home	18
11.	Children were more responsible for their progress	18
12.	There was no class competition, but personal or child-selected peer competition	16
13.	Children completed all their arithmetic in school, and there was no homework	12
14.	There was increased contact with teachers	12
15.	Children were more motivated or enthused, with unrestricted progress, towards arithmetic, and toward all school work	9
16.	I.P.I. develops the child's mind and they can think for themselves	7
17.	In I.P.I. children get more individual help	7
18.	Children progress more rapidly in I.P.I. arithmetic than they would in a regular textbook program	4
19.	Additional items	8
	Total	402

TABLE XI

ANALYSIS OF UNDESIRABLE FEATURES MENTIONED DURING THE INTERVIEWS

Item	Feature Described	Frequency
1.	The slow, unaggressive, and lazy child was not "pushed" and given enough teacher supervision	19
2.	Parents, unable to volunteer, were not involved and were not frequently informed about the arithmetic concepts and practice completed by their child	18
3.	Children did not take arithmetic homework	16
4.	The desk work of the teacher prevented her from circulating around the class to teach, encourage, or supervise behavior	14
5.	The I.P.I. Student Profile sheet had little meaning for comparative purposes	11
6.	Teacher-aides could be detrimental	10
7.	Volunteers may not be ethical	6
8.	The I.P.I. materials lack provisions for "drill" of basic facts and practice of basic skills	6
9.	I.P.I. materials and methods are not suited for the beginning student (grade one)	5
10.	I.P.I. would cost too much to implement throughout the system	5
11.	Additional items	9
	Total	119

A comparison of the total frequency of comments about desirable features (Table X) with the total frequency of comments about undesirable features (Table XI) indicates there were four times as many responses concerning desirable features.

Theme 4: Competition

Parents pointed out that there are three types of competition in a school class. The first type occurred when the child competed by trying to get marks above the class average, or by completing work more quickly than the rest of the class, or by trying to get the teacher's approval or attention in group lessons. The second type occurred when the child competed with peers. The third type was personal competition with the child's own previous achievement or progress record.

In I.P.I. arithmetic the second and third types of competition predominated.

Many parents found it desirable that with I.P.I. there was no compulsion for children to compete with the class. It was thought desirable that children could select the peers with whom they wished to compete. It was felt that there was less peer competition in lower elementary levels than in upper elementary levels. Although a few parents valued only self-competition for their children, a larger number of parents valued some competition,

particularly as the child advanced through upper-elementary school. Several parents thought that children who would not compete in any of the various ways for an extended period of time should be compelled to work and to progress. Selective competition held some benefits for the child. Children were reported to have gained more self-confidence and satisfaction. Children were less tense or anxious about competing. The academically slow child, the shy child, and the neurotic child were no longer embarrassed in class by being compelled to respond, compete, or participate with the class in group activities. Relative to this, former honor students are no longer visibly superior. This engendered some complaints from bright students, according to their parents, because they valued group competition. Some parents were pleased that their children could no longer compete academically and compare marks with siblings because there were fewer arguments and unpleasant emotional outbursts at home.

Parents had varied personal reactions to competition. Approximately half of the population did not like the "satisfactory", or "not satisfactory" ranking system used on the reports because they had a desire to know how their child compared to the class average in terms of achievement and progress. There was also some concern about the future. They wondered if a child who was conditioned to work independently would be able to adjust to classroom

competition in junior high school.

Theme 5: Individualizing Instruction

Throughout the interviews, references were made concerning the effect of the I.P.I. method of instruction upon the individual child. These effects have been summarized and reported in this chapter (see pp. 72-73).

IV. RESPONSE VARIATIONS BY SCHOOLS

There were five response variations among schools. The reasons for the variations were not clear in all cases.

Of the fourteen respondents interviewed in the Saint Vincent de Paul school area, in Calgary, eleven said they did not know how to interpret the I.P.I. Student Profile sheet.

Seven out of fourteen respondents from the Forest Heights school area, in Edmonton, commented that they needed a brief summary of the parent-teacher conference to help them explain the conference results to the other parent who was away working for extended periods of time.

A greater percentage of respondents from the two city school districts expressed comments about taxation and education costs than did the respondents from the Millarville system.

A greater percentage of people from the Millarville school and the Forest Heights school increased contact with

the teachers after the I.P.I. program was begun than was the case for the Saint Vincent de Paul school. Twelve respondents increased contact, eleven of them were from these two districts.

Because of the long school bus ride to and from the school at Millarville, it was not thought feasible to expect most children to do homework. The same circumstance did not occur in the other two schools.

V. SUMMARY

Description of Responses

(1) Seventy-seven percent of the respondents said that the feature of the child working at his own rate was excellent or good.

(2) The opinions of parents were evenly divided over the feature that there was no arithmetic homework.

(3) Fifty-one percent of the population thought their children were assuming more responsibility for their progress in arithmetic and 37.2 percent said there was no change.

(4) The majority of the respondents, 82.8 percent, were satisfied with their children's achievement in the I.P.I. arithmetic.

(5) Twenty-three percent of the parents said there were dramatic changes in their children's attitudes and behavior around the home, 31.4 percent said there were

normal, maturational changes in attitudes and behavior around the home, and 42.9 percent said there were no changes.

(6) The question about the effects the I.P.I. arithmetic program would have upon the child's attitude toward school in future years evoked two main reactions. Ten parents expressed concern about the continuity between elementary and junior high school programs, and twenty-six parents felt that the children's experiences with the I.P.I. program would benefit them in junior and senior high school.

(7) The I.P.I. program had the effect of causing one third of the respondents to increase their contacts with the teacher.

(8) The I.P.I. program caused little change in the relationship between the parents and the principal (or vice-principal).

(9) Ninety-four percent of the respondents were in favor of hiring teacher-aides to do clerical tasks for the teachers.

(10) Eighty-nine percent of the respondents thought the idea of parental volunteers working in the school was good.

(11) Communication (information exchange about most topics) between the parents and the schools was adequate.

(12) A majority of the parents expressed satisfaction with the parent-teacher conferences as a means of

reporting child progress and achievement, but opinion was split between acceptance and rejection of the "satisfactory, not satisfactory" form of the report card as a means of reporting.

(13) Eighty-three percent of the parents regarded the I.P.I. arithmetic program as being valuable enough, at the first year point of the three year trial, to justify the expenditure of funds on its implementation.

(14) A number of comments were directed to school board officials before the implementation of the I.P.I. program in other subjects. Approximately 85 percent of the respondents indicated that the desirable effects of the individualization of instruction would be an important consideration. There were several cautionary comments concerning implementation. Fifty-four percent of the population favored increased taxes to improve education, with a further 37 percent who valued I.P.I. in spite of increased costs, so may also favor increased taxes. Teacher and parental considerations were also noted.

(15) Seventy-seven percent favored, while 20.2 percent rejected, using the local school for another educational experiment after the I.P.I. project was completed.

Response Themes

There were two types of themes revealed in the

thirty-five interviews. Individual respondent themes, or "trains of thought", clearly emerged in twenty-four interviews. The other type of themes was the general opinion clusters. The five opinion clusters were concerned with: (1) I.P.I. programmed materials, (2) desirable features of the I.P.I. experimental arithmetic project, (3) undesirable features of the I.P.I. experimental project, (4) competition, and (5) individualizing instruction.

Response Variations by Schools

There were five minor response variations which were peculiar to parents from one or two of the schools.

REFERENCE -- CHAPTER IV

[1]E.J. Ingram, "Public Attitudes Toward Education as a Basis for a Public Relations Program." Unpublished Master of Education Thesis, Edmonton: University of Alberta, 1961. p. 37.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

I. SUMMARY

The Problem

In 1968, the Alberta Human Resources Research Council (H.R.R.C.) proposed to field test an individualized learning program in Alberta schools. The Individually Prescribed Instruction (I.P.I.) arithmetic program for elementary schools was selected. This program was developed by the Learning Research and Development Center at the University of Pittsburgh and is being field tested in several hundred schools in the United States by Research for Better Schools, Inc. (R.B.S.), of Philadelphia. In September, 1969, a pilot project to study the applicability of this program to Alberta elementary schools was implemented in three schools: Forest Heights in Edmonton, Saint Vincent de Paul in Calgary, and Millarville in the Foothills School Division.

The H.R.R.C. project staff identified several aspects of the project for evaluation and several research studies were initiated. This study was proposed as part of the total evaluation of the project. It was designed to survey parental opinions about selected variables related to the I.P.I. elementary arithmetic project. Three main categories of variables were identified for evaluation and numbers of

questions were posed in each category.

Related Literature

Selected literature related to the problem of adapting instructional environments to the different interests and needs of students as individuals was reviewed. The Pittsburgh I.P.I. was described as a system of procedures that would produce an educational environment which would make provisions to individualize instruction. Their I.P.I. program for teaching elementary school arithmetic was explained. The features of the arithmetic program made it suitable for field testing in Alberta schools by the H.R.R.C., because one of H.R.R.C.'s objectives was to find more effective approaches to the individualization of instruction than had existed previously in the province.

Design of the Study

It was decided to collect the data by interviewing individual parents in their homes. The interviewing technique was selected because it would serve several purposes that might not be achieved by other methods. A preliminary interview schedule and a guide to the schedule were drawn up and were tested in a pilot study. With subsequent judging and alterations, the final schedule and guide were used to interview a random selection of thirty-five parents who met the sampling criteria. The interviews were tape recorded, transcribed, and summarized. The

transcriptions and summaries were judged for accuracy. The data were analyzed in terms of the response themes which emerged, and in terms of the response variations from different experimental school areas.

II. CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Implications and Recommendations for Survey Research

As a technique for collecting data, directed exploratory interviews serve several purposes that might not be achieved by other methods. The values and limitations of the technique were discussed in Chapter III. The most valuable feature of using the technique in this study was the opportunity to obtain qualifying statements about the responses. As can be seen in the report of the findings in Chapter IV, a more complete picture of the opinions is possible and the researcher is given a broad data base upon which to formulate implications and recommendations. The writer recommends that other research surveys be conducted by means of personal interviews.

One conclusion that can be drawn from this study is that by careful planning of the entire data collection procedure, interviews are easily obtained and the researcher is cordially treated. The letter of reference mailed five days beforehand by the authorizing agency, the preliminary telephone call by the researcher, and the presentation of

the letters of introduction, resulted in cooperation and hospitality from the subjects.

Another implication may be drawn. Because of the redundant, highly consistent nature of the responses, it seems that interviewing 5 percent of the total population, with open-ended questions resulted in a collection of opinions that hopefully was indicative of parental opinions in general.

The writer recommends that other studies using this technique be used to help evaluate parental acceptance of other educational program innovations during their trial stages.

The question in which parents were asked to make comments to school board officials resulted in feedback which was more extensive than expected by the researcher. The writer recommends that surveys be used by school board officials and trustees to obtain information about public attitudes toward various educational issues such as taxation, priorities in educational expenditure, new programs, reporting methods, school discipline policies, and others.

Implications for General Strategies of Educational Innovation and for Implementing the I.P.I. Program in Alberta

The findings of this study indicate several implications which are relevant to the third category of responses

and the general opinion clusters which were reported in Chapter IV. These responses dealt with personnel, communication, and administrative variables.

There were conditions which made the I.P.I. project acceptable to the respondents. In the parents' estimation, the three experimental plants were excellent schools: parental communications with the school had been adequate the first year of the study and also during the preceding year; the parents expressed respect for the qualifications, competency, and personalities of the school personnel; they were pleased with the quality of instruction in all subjects; and the parents felt that the various methods of reporting child progress complemented one another. A visit to the schools by the writer revealed that the schools were well equipped, had pleasant surroundings, and had flexible instructional areas. The implication that can be drawn is that the success of an innovation, such as the I.P.I. arithmetic project, may depend, in part, upon the conditions of the school environment in which the innovation is tried. The conditions of schools in other parts of the province may not be the same as those found in the three experimental schools used for the I.P.I. project. Before being accepted for system wide implementation, experimental programs, such as I.P.I., should be tried in other schools with less ideal environments. For example, subsequent studies should involve schools which are crowded, which have out-of-date floor

plans, and which draw children from families which do not support the school or highly value its services.

Parental acceptance of the administrative and instructional features of the I.P.I. arithmetic program, utilized in the H.R.R.C. pilot project, would indicate that the I.P.I. arithmetic could be implemented in other Alberta schools. However, the writer would caution school systems to examine all the evaluation reports which are available about the I.P.I. pilot project prior to making a decision. For example, it would seem that a large part of the success of an I.P.I. program would depend on teacher acceptance and willingness to try to make the program succeed.

There were indications from parents that the I.P.I. arithmetic program should have some restrictions placed on its implementation. Every parent interviewed, who had a first year (grade one) student working with the I.P.I. materials, questioned the value of the instructional method for these students. It is recommended that further study be made of the effect the I.P.I. method in arithmetic has upon first year elementary students.

Implications of the Novelty Effect

The I.P.I. arithmetic experimental project produced a novelty effect which made parents and students interested in the project. Many parents wanted to become more involved in the program mainly for the sake of gaining more

information. Parents in the three experimental schools needed more information about the concepts of individualizing instruction, mastery of school materials, I.P.I. achievement, and about the concept of non-gradedness (as evidenced by the responses which indicated parental confusion about the I.P.I. Student Profile sheet). The objectives of the parent-teacher conferences should be made clear to parents prior to the event. In addition to the orientation meetings, parent-teacher conferences, and visits, the writer recommends that a greater effort be made to contact all parents with children attending the local school prior to and throughout the trial of new elementary educational programs. The writer further recommends that teachers should contact the parents by telephone since this would help establish good public relations between the teachers and the parents.

In the interviews several parents pointed out that the children were aware that the program was an experiment and that they wanted the project to succeed. This feature could prove instrumental or supportive and could partially ensure the success of the innovation. The writer would recommend that any strategy for innovating a desirable educational program include a plan for encouraging a novelty effect to emerge with parents, children and teachers. This may ensure that an innovation has a successful trial, if the trial is to continue over an extended period of time

prior to a final evaluation.

Any evaluation should consider the effect of novelty upon the acceptability of the program for long term implementation. Likely, the novelty effect would no longer be easily produced if experiments were introduced too rapidly in succession. In the study, parents were receptive to further experimentation, but several advocated that the larger experimental projects should be started two or three years apart so that any detrimental effects upon a particular group of children could be partially alleviated.

The writer concludes that the novelty effect likely has biased the results of this study. Prior to drawing final conclusions concerning the suitability of I.P.I. arithmetic to Alberta schools, the writer recommends that the results of related studies, published by Research for Better Schools, Inc., be carefully examined because the I.P.I. pilot projects in the United States have been tried for six years in some schools and the novelty effect should be fading in these situations. However, there are no related studies of parental opinions of I.P.I. projects in the United States.

Other Recommendations

The writer recommends that the feasibility of hiring teacher-aides and utilizing the services of parental

volunteers to assist in the future implementation of individualized instructional programs be studied further.

Since there have been no other studies conducted which investigate parental opinions of various features related to the I.P.I. arithmetic program, the writer recommends that a replicated study be conducted near the end of the three year project to determine if there has been any change in parental attitudes toward the I.P.I. arithmetic and other features related to the project.

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A P P E N D I X A

LETTERS OF PERMISSION TO CONDUCT RESEARCH IN CALGARY AND MILLARVILLE

Foothills School Division, No. 38

109

HIGH RIVER - ALBERTA

February 13th, 1970.

Mr. Murray Hoke,
523 Michener Park,
EDMONTON 70, Alberta.

Dear Mr. Hoke:

Permission is hereby granted for you to conduct your research in the Millarville School area. I note that you are interested in the parental reactions to the I.P.I. experimental project.

This should be an interesting and valuable study, and I would be pleased to hear the results of your study.

I am including the letter you requested for identification purposes.

Calgary Roman Catholic Separate School District No. 1

CATHOLIC SCHOOL CENTRE - 300 SIXTH AVE. S.E.
Calgary 21, Alberta

February 13, 1970

Mr. Murray Hoke
523 Michener Park
EDMONTON 70, Alberta

Dear Mr. Hoke:

Permission to conduct research in the St. Vincent de Paul Elementary School area, as outlined in your letter of February 5, 1970, is granted.

It will be in order for you to contact the principal of the school, Mr. Ralph Vigna, to obtain a list of parents for sampling purposes.

A letter of introduction to parents is enclosed.

A P P E N D I X B

GUIDE TO THE SCHEDULE AND

INTERVIEW SCHEDULE

SCHEDULE GUIDE

Upon calling at the subject's door, introduce yourself and present your letter of introduction.

Once inside the house, attempt to be seated at a table. Sit about four feet from the subject. (Distance is important. The greater the distance the more detached and formal the interview becomes.)

Volunteer information freely about the general aspects of the Alberta Human Resources Research Council's evaluation project and the place of the parental interviews.

Tell the subject you would like to record the interview on the cassette tape-recorder. Indicate that the reason for using the recorder is because it would be impossible to write everything down that is said. Tell him that after the interview the tape-recording will be used to make an anonymous, verbatim, transcription and then the recording will be erased. The information from the verbatim transcription will be included in a study along with the opinions of thirty-four other parents.

Tell the subject that during the interview the main questions will be read and the answers could be discussed.

If a disturbance occurs, such as a telephone call, tell the subject that the tape recorder will be shut off until he returns. Request that he ask the caller to telephone or call back. Tell him you would appreciate it if any small disturbance be dealt with in this manner so that the interview can be finished. If an interruption occurs the last question will be repeated.

Before beginning the interview, tell the subject you would like to describe the I.P.I. method of teaching arithmetic so that he has a clear idea of what is meant when reference is made to the I.P.I. arithmetic project. Read the following description.

I.P.I. Method of Teaching Arithmetic

The new math was started in the local school four or five years ago. At that time textbook series were used for purposes of instruction. This year, the I.P.I. method is being used in your school. Your school is one of three experimental schools in the Province using the I.P.I. method and arithmetic materials.

The I.P.I. method is basically a workbook or work-sheet approach to teaching the new math. When a child begins the program he is given a pre-test to determine at which level he should start in the worksheets. While he is working through the units in each level he takes short embedded tests which assess his progress in each unit. He must master or thoroughly learn the material in each unit prescribed. Upon completion of a unit of work, he is given a post-test. If he fails to demonstrate that he had mastered the material in a particular unit, then he may have another unit prescribed by the teacher which deals with the same concept or objective. If he masters a particular unit, then he can do a pre-test to a new unit which deals with another concept.

If a pre-test to a particular unit indicates that the pupil is familiar with the concepts in that unit, then he may go on to the pre-test of the next unit.

I.P.I. is not a new curriculum but a new way of teaching. Teachers in the program do little teaching to groups of pupils. Instead, they devote their time to evaluating the students' independent work, diagnosing each child's needs, and helping him along from one objective to another. In this way instruction is directed to each pupil as an individual. The child works through the material at his own rate of speed.

The teacher has been given some assistance. Teacher-aides have been hired to do certain clerical jobs for the teacher such as filing materials, distributing the work-sheets, and keeping records of each child's progress. The teacher-aides have had special training in how to do these jobs. In addition, each experimental school has a number of community volunteers working in the I.P.I. arithmetic classes. The volunteers are parents of some of the children attending the school. Their job is to sit in the classroom and use answer books to check the work of the children.

Tell the respondent that you are aware he may have more questions about the program, and you would be pleased to answer these after the interview.

Remind him that you are interested in his <u>personal opinions</u> in answer to the questions of the interview. Now, begin the questions on the schedule.

INTERVIEW SCHEDULE

Are you familiar with the I.P.I. program or method of teaching the arithmetic presently being used in the school? Could you describe it?

Item 1. In your opinion, in what ways is the new I.P.I. arithmetic method of instruction a desirable procedure? (Probe for clarification of generalities.)

Item 2. In what ways is the new I.P.I. arithmetic method of instruction an undesirable procedure? (Probe for clarification of generalizations.)

Item 3. What is your opinion of your child working at his own rate of speed in the I.P.I. program at school?

Item 4. What are your comments concerning the fact that there is no arithmetic homework?

Item 5. Has the I.P.I. arithmetic had any effect upon your child's behavior or attitudes outside of school? (Probe: Explain your answer.)

You probably realize that the I.P.I. project costs more than the regular textbook program. If it was used in all the other schools, it could likely cause some increase in school system expenditures.

Item 6. As an on going evaluation, do you see the I.P.I. method or program as valuable enough at this time to justify paying the extra cost? (Probe: Explain your answer.)

Item 7. Has this new program had any effect upon your child accepting responsibility for his progress in school? (Probe: Explain your answer.)

Item 8. How do you think the I.P.I. program in arithmetic may affect your child's attitude toward school in future years: primarily in junior high school and high school?

Item 9. What opinion do you have about your child's achievement this year in the I.P.I. arithmetic program?

Item 10. What comments do you have concerning the way your child's progress ... is reported to you this year? (Probe to get various methods listed, and their evaluation.)

Item 11. Would you tell me about the effect the program has had upon your personal relationship with your child's teacher? (Probe: Has it changed this year as compared to last year?)

Item 12. What opinions do you have about the idea of hiring teacher's-aides, to do certain clerical jobs for the teachers?

Item 13. Would you tell me about the effect the program has had upon your relationship with the school principal (and vice-principal). (Probe: Has it changed this year as compared to last year?)

Item 14. What are your comments about the idea of having community volunteers working in the school?

Item 15. In general what are the different ways you send information, or get word, or make any contact with the school? (Probe: (a) What are the different ways you receive information? (b) What practices do you think should be kept regarding the sending or receiving of information? (c) What is your opinion of the exchange of information between you and the school? Would you suggest any changes?)

I presume you talk to people, who are not family members or people who are not working in the school, about various school matters.

Item 16. When you talk to people not working in the school, what sort of things about the school are most often discussed?

Would you agree that the I.P.I. program is different from regular arithmetic programs? ... Before a program such as this is put into a school, school board officials in the head office, downtown, have to decide if it is a good idea to start with. They base their decision on good and bad things other people tell them about the program. Parents can tell them some of the good and bad things. Would you agree?

Item 17. What comments would you like to pass along to School Board officials before similar programs using I.P.I. method in other subjects such as science, reading or spelling are begun?

Item 18. Explain why you would or would not want your school to be used to start another experimental program after this one is completed?

APPENDIX C

LETTER TO THE PARENTS SELECTED FOR INTERVIEWING FROM THE ALBERTA HUMAN RESOURCES RESEARCH COUNCIL

HUMAN RESOURCES RESEARCH COUNCIL
11507-74 AVENUE, EDMONTON 62, ALBERTA · TELEPHONE 433-2541

March , 1970

Dear

The elementary school which your children attend is taking part in the Alberta Human Resources Research Council's study of Individually Prescribed Instruction (IPI) in mathematics. Because the opinions of parents who have children taking the arithmetic program are very important to the study, a number of parents were selected for a confidential interview. Your name was among those chosen.

Mr. Murray Hoke, a graduate student at the University of Alberta in Edmonton, will phone you in the next week or so to ask for an appointment. He will give you further information about the interview when he calls.

I hope that you can find the time to talk with Mr. Hoke.

A P P E N D I X D

LETTERS OF INTRODUCTION

EDMONTON PUBLIC SCHOOLS

10010-107A Avenue., EDMONTON 17. ALBERTA.
Telephone: 403 - 429-5621

Dear Forest Heights Parent:

Your cooperation with the bearer of this letter, Mr. Murray Hoke, is respectfully requested on behalf of the Edmonton Public School Board.

Mr. Hoke is conducting a very important study for the Human Resources Research Council of the Province of Alberta.

This study involves obtaining parental opinions and viewpoints regarding the individualized learning approach to Arithmetic (commonly referred to as I.P.I.) presently being tried out in Forest Heights Elementary School.

Your opinions, and those of other parents, will assist those of us in education to determine whether or not we are moving in an acceptable direction in curriculum. Your assistance in this study, therefore, will be of benefit to your child, the school and to the development of sound educational programs in the province of Alberta.

Calgary Roman Catholic Separate School District No. 1

CATHOLIC SCHOOL CENTRE - 300 SIXTH AVE. S.E.

Calgary 21, Alberta

February 13, 1970

To whom it may concern:

The bearer of this letter, Mr. Murray Hoke, is conducting research for the Human Resources Research Council of the Province of Alberta.

We are involved with the individualized instruction program in arithmetic at St. Vincent de Paul School.

Mr. Hoke is engaged in research concerned with parental assessment and observations of pupils involved in this instruction program. The Human Resources Research Council is seeking to evaluate the program from as many different viewpoints as possible and your cooperation with Mr. Hoke will be most helpful in achieving a part of this objective.

Foothills School Division, No. 38

HIGH RIVER - ALBERTA

February 13th, 1970.

To Whom It May Concern:

This letter introduces Mr. Murray Hoke, who is conducting research for the Human Resources Research Council. This research has been approved by this office. I invite you to co-operate with Mr. Hoke and his study.

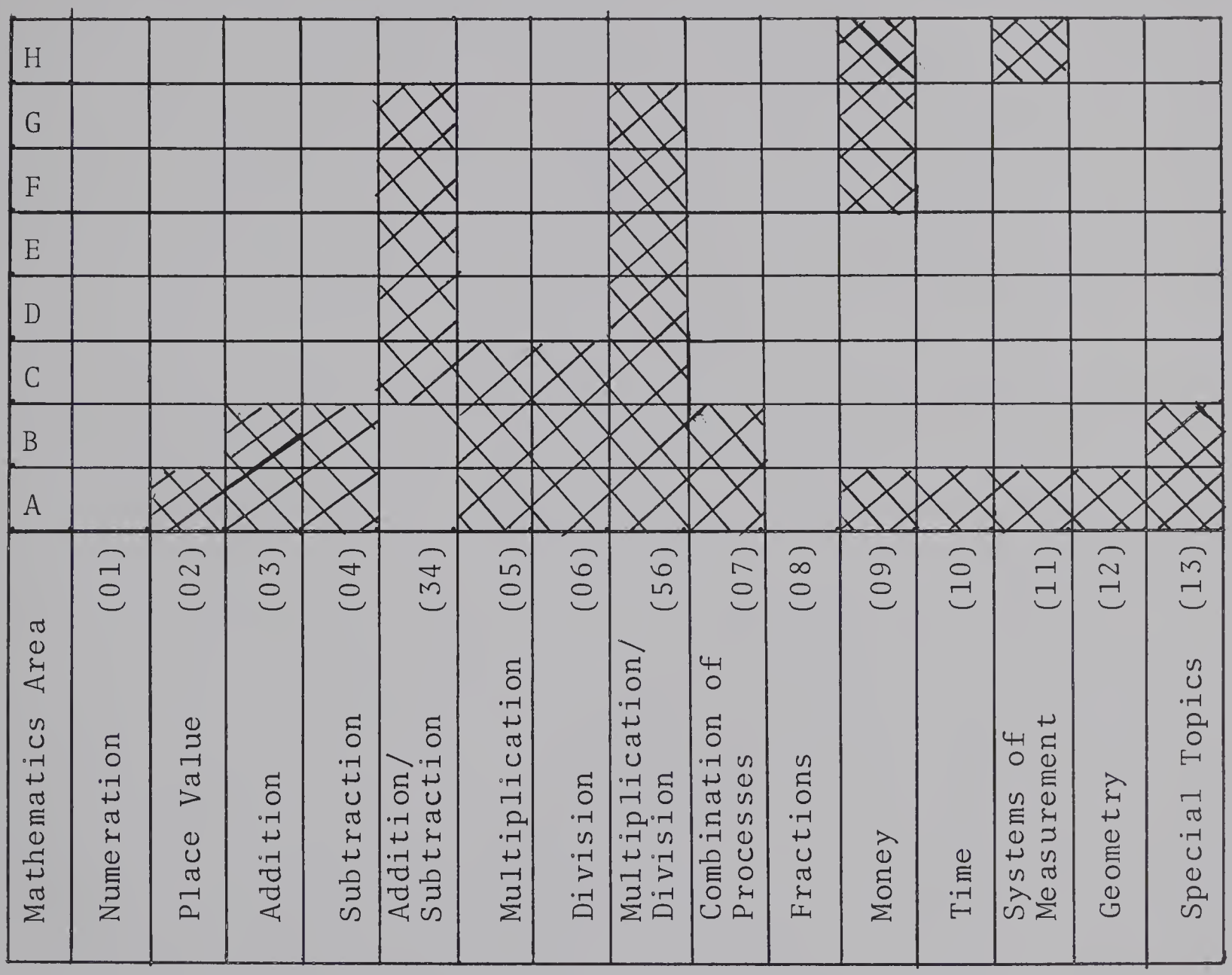
A P P E N D I X E

INDIVIDUALLY PRESCRIBED INSTRUCTION

STUDENT PROFILE SHEET

I.P.I. STUDENT PROFILE

NAME_____ GRADE_____ ROOM_____



Mathematics Area	
Numeration	(01)
Place Value	(02)
Addition	(03)
Subtraction	(04)
Addition/ Subtraction	(34)
Multiplication	(05)
Division	(06)
Multiplication/ Division	(56)
Combination of Processes	(07)
Fractions	(08)
Money	(09)
Time	(10)
Systems of Measurement	(11)
Geometry	(12)
Special Topics	(13)

Check (X) the box to indicate mastery of unit.

Based upon prototype originated by the Learning Research and Development Center. As Field tested by Research for Better Schools, Inc.

Appleton-Century-Crofts
Division of Meredith Corporation
440 Part Avenue South,
New York, N.Y. 10016.

P2-1969